MACHINE-TOOL PROGRAMS

UNIVERSITY
OF MICHIGAN

APR 3 - 1956

MAIN
READING ROOM

HEARINGS

BEFORE A

SUBCOMMITTEE OF THE SELECT COMMITTEE ON SMALL BUSINESS UNITED STATES SENATE

EIGHTY-FOURTH CONGRESS

SECOND SESSION

ON

MACHINE TOOLS: MOBILIZATION PLANNING, RESERVE AND REPLACEMENT PROGRAMS

FEBRUARY 7 AND 8, 1956

Printed for the use of the Select Committee on Small Business

UNITED STATES
GOVERNMENT PRINTING OFFICE
73257 WASHINGTON : 1956

SELECT COMMITTEE ON SMALL BUSINESS

(Created pursuant to S. Res. 58, 81st Cong.)

JOHN SPARKMAN, Alabama, *Chairman*

RUSSELL B. LONG, Louisiana
HUBERT H. HUMPHREY, Minnesota
GEORGE A. SMATHERS, Florida
JOHN F. KENNEDY, Massachusetts
JAMES O. EASTLAND, Mississippi
WAYNE MORSE, Oregon
EDWARD J. THYE, Minnesota
LEVERETT SALTONSTALL, Massachusetts
ANDREW F. SCHOEPPEL, Kansas
JAMES H. DUFF, Pennsylvania
BARRY GOLDWATER, Arizona
THOMAS H. KUCHEL, California

WALTER B. STULTS, *Staff Director*
LEWIS G. ODOM, Jr., *Chief Counsel*

SUBCOMMITTEE ON RELATIONS OF BUSINESS WITH GOVERNMENT

EDWARD J. THYE, Minnesota, *Chairman*

JOHN SPARKMAN, Alabama
GEORGE A. SMATHERS, Florida
JAMES O. EASTLAND, Mississippi
JAMES H. DUFF, Pennsylvania

WILLIAM D. AMIS, *Professional Staff Member*
ROY E. FOULKE, *Professional Staff Member*

DEPOSITED BY THE
UNITED STATES OF AMERICA

CONTENTS

Statement of—

	Page
Aldridge, Capt. Eugene T., USN, Assistant Chief, Office of Naval Material, Director of the Production Division	84
Bergstrom, Swan E., representing the National Machine Tool Builders' Association; accompanied by Tell Berna, executive vice president; and Graham E. Marx, vice president and general manager, the G. A. Gray Co., Cincinnati, Ohio	42, 63
Carter, Col. W. R., Chief, Industrial Resources Division, Department of the Air Force	79
Flemming, Arthur S., Director, Office of Defense Mobilization	11
Fogler, Raymond H., Assistant Secretary of the Navy (Material)	80, 98
Higgins, F. H., Assistant Secretary of the Army (Logistics); accompanied by Milburne Webb, Director of Industrial Mobilization, Office of Assistant Secretary of the Army (Logistics); Gen. Henry R. Westphalinger, Director of Procurement, Office of the Deputy Chief of Staff for Logistics; and K. E. Joy, machine-tool specialist, Office of the Chief of Ordnance	56
Jackson, D. R., Deputy to the Assistant Secretary of the Air Force (Materiel)	75
Kelley, James C., general manager, American Machine Tool Distributors' Association; accompanied by J. F. Owens, Jr., partner and general manager, J. F. Owens Co., Syracuse, N. Y., and first vice president, American Machine Tool Distributors' Association; H. R. Hansen, vice president, William K. Stamets Co., Pittsburgh, Pa., and Cleveland, Ohio, and president, American Machine Tool Distributors' Association; and E. J. Seifreat, Seifreat-Elstad Machinery Co., Dayton, Ohio	101
Marx, Graham E., vice president and general manager, the G. A. Gray Co., Cincinnati, Ohio	65
Nash, James P., Office of the General Counsel, Department of Defense	35
Pike, Thomas P., Assistant Secretary of Defense (Supply and Logistics); accompanied by James P. Nash, Office of the General Counsel, and John H. Williams, Chief, Production Equipment Branch, Office of the Assistant Secretary of Defense (Supply and Logistics)	22
Sharp, Dudley C., Assistant Secretary of the Air Force (Materiel); accompanied by D. R. Jackson, Deputy to the Assistant Secretary (Materiel); and Col. W. R. Carter, Chief, Industrial Resources Division, Department of the Air Force	71
Vance, Harold S., member of the Atomic Energy Commission	3
Webb, Milburne, Director, Industrial Mobilization, Office of Assistant Secretary of the Army (Logistics)	57
Weisbecker, A. J., head of the Industrial Tool and Equipment Branch, Bureau of Ships, Department of the Navy	86
Westphalinger, Gen. Henry R., Director of Procurement, Office of the Deputy Chief of Staff for Logistics, Department of the Army	60
Williams, John H., Chief, Production Equipment Branch, Office of the Assistant Secretary of Defense (Supply and Logistics)	39

EXHIBITS

1. Letter dated February 13, 1956, from Senator Sparkman to Arthur S. Flemming, Director, Defense Mobilization, requesting additional information	20
1 (a). Reply from Mr. Flemming, dated February 27, 1956, supplying the requested information	20
2. Department of Defense Directive No. 4215.9, dated February 2, 1956	23

Page

3. Letter dated February 20, 1956, from Senator Sparkman to Assistant Secretary of Defense Thomas P. Pike, requesting additional information 40
3 (a). Reply from Mr. Pike, dated March 15, 1956, supplying the requested information 41
4. Replacement program—machine tools (SCC 3411–3418), computation factors (new equipment), Bureau of Ships, November 28, 1955 (table) 88
5. Letter dated February 24, 1956, from Assistant Secretary of the Navy (Material) R. H. Fogler, to Senator Thye, supplying requested information on the estimated annual funds required to carry out a Navywide machine-tool replacement program 99

CHARTS

Chart I: Major machine tool items in Shop 31, United States Naval Shipyards and Ship Repair Facility, San Diego (percentage distribution by age group as of July 1, 1954) 89
Chart II: Why our older vertical turret lathes are outmoded 90
Chart III: Comparative cost to keep our outmoded vertical turret lathes 91
Chart IV: Now is the time to replace our outmoded vertical turret lathes 92
Chart V: Replacement program (analysis sheet) 94
Chart V (a): Replacement program (analysis sheet) old machine-tool data 95
Chart VI: Replacement program (summary) 96

APPENDIXES

1. Production capacity: A Military Reserve—A report to the Director of Defense Mobilization by the Advisory Committee on Production Equipment, January 1953 (Vance Report) 115
2. Joint ODM–DOD press release, January 5, 1956—Reserve machine tool and facilities policy 132
3. Defense Mobilization Order VII–4—ODM policy guidance on Government-owned production equipment 133–136
4. Letter dated December 12, 1955, from Senator Sparkman to Arthur S. Flemming, Director, ODM, requesting information on ODM's machine-tool program 136
4. (a) Reply from Dr. Flemming to Senator Sparkman, dated January 12, 1956, submitting report on ODM's machine-tool program 137
5. Letter dated September 16, 1955, from Senator Sparkman to Assistant Secretary of Defense Thomas P. Pike, requesting information on Department of Defense machine-tool program 146
5. (a) Reply from Assistant Secretary of Defense Pike to Senator Sparkman, dated November 4, 1955, reporting on machine-tool program 147
6. Letter dated December 12, 1955, from Senator Sparkman to Assistant Secretary of the Army F. H. Higgins, requesting information on Department of the Army machine-tool program 149
6. (a) Reply from Assistant Secretary of the Army Higgins, to Senator Sparkman, dated December 27, 1955, reporting on machine-tool program 149
7. The Need for a National Policy for the Machine Tool Industry in Peace and War—A paper for the National Security Council, submitted by the National Machine Tool Builders' Association and the American Machine Tool Distributors' Association, July 1, 1955 153
8. Letter dated November 9, 1955, from Joel Barlow, counsel for the National Machine Tool Builders' Association, and American Machine Tool Distributors' Association, to the Joint Committee on Internal Revenue Taxation in re Renegotiation study 178
9. Letter dated December 12, 1955, from Senator Sparkman to Assistant Secretary of the Air Force Dudley C. Sharp, requesting information on machine-tool program 184
9. (a) Reply from Assistant Secretary of the Air Force Sharp to Senator Sparkman, dated January 13, 1956, reporting on machine-tool program 185

Page
10. Letter dated December 12, 1955, from Senator Sparkman to Assistant Secretary of the Navy Raymond H. Fogler, requesting information on machine-tool program 186
10. (a) Reply from Assistant Secretary of the Navy Fogler to Senator Sparkman, dated January 6, 1956, reporting on machine-tool program 186
11. Letter dated February 21, 1956, from James C. Kelley, general manager, American Machine Tool Distributors' Association, relating to the question of depreciation reserves 189
12. Joint statement on price escalation in machine-tool procurement submitted by Louis Polk, president, National Machine Tool Builders' Association, and Henry R. Hanson, president, American Machine Tool Distributors' Association, March 13, 1956 189

HEARING DATES

Tuesday, February 7, 1956 1
Afternoon session 56
Wednesday, February 8, 1956 71

MACHINE-TOOL PROGRAMS

TUESDAY, FEBRUARY 7, 1956

UNITED STATES SENATE,
SELECT COMMITTEE ON SMALL BUSINESS,
SUBCOMMITTEE ON RELATIONS OF
BUSINESS WITH GOVERNMENT,
Washington, D. C.

The select committee met, pursuant to notice, at 10 a. m., in room 457 Senate Office Building, Senator Edward J. Thye (chairman of the subcommittee) presiding.

Present: Senators Thye and Sparkman.

Also present: Walter B. Stults, staff director; Lewis G. Odom, Jr., chief counsel and Roy E. Foulke, professional staff member.

Senator THYE. If we may please come to order, we will proceed with the committee hearing.

The Senate Small Business Committee has maintained a continuing interest in governmental plans and programs relating to the machine-tool industry since our 1952 hearings on machine-tool shortages.[1] The committee report [1a] on those hearings concluded that the shortage of machine tools and haphazard Government planning seriously retarded the building of our armed strength. The committee further concluded that—

> machine-tool shortages were avoidable and that they were the result of inexcusable shortsightedness and gross mismanagement * * *.

It was also evident that the machine-tool shortages caused incalculable harm to small manufacturing concerns.

The committee expected that the unfortunate experiences with machine-tool shortages in World War II, and again in Korea, would lead all concerned to realize the overriding necessity of adequate governmental programs to prevent a repetition of a machine-tool bottleneck in a future emergency. This committee was, therefore, pleased with the report of the Advisory Committee on Production Equipment (so-called Vance committee)[2] in January 1953, which underscored the fact that a healthy production equipment industry is the essential prerequisite of an adequate mobilization base.

It should be recalled that the Vance committee recommended annual Government procurement of roughly $300 million to properly maintain and keep up to date Government-owned machine-tool holdings estimated at $6 billion. This distinguished group further recom-

[1] Machine-Tool Shortages, hearings, February 27, 28, 29, March 10, 11, 12, 14, 17, 18, 19, and April 1 and 2, 1952, 82d Cong., 2d sess.

[1a] S. Rept. No. 1988, 82d Cong., 2d sess., 1952.

[2] See appendix 1, p. 115, for report to the Director of Defense Mobilization by the Advisory Committee on Production Equipment.

mended expenditures of 200 to 500 million dollars per year over a period of several years to acquire the production equipment to support an adequate mobilization base.

The Small Business Committee noted with favor the Department of Defense program, at the insistence of the Office of Defense Mobilization, to procure long lead-time machine tools in accordance with Vance committee recommendations. The importance of this long lead-time program was attested to by the Honorable Thomas P. Pike, Assistant Secretary of Defense (Supply and Logistics) who testified before the Senate Appropriations Committee on April 27, 1955, as follows:

> I am pleased to have this opportunity to appear before you to discuss the need for a $100 million appropriation for long lead-time items for reserve use in time of mobilization.
>
> The Army, Navy, and Air Force recommendations under this program originally totaled $400 million. They were screened carefully by my Office, and long production lead-time machine tools of $250 million were approved late in fiscal year 1954, based on funds approved at that time.
>
> Fiscal year 1954, however, ended before it could be obligated.
>
> Subsequently, the Congress approved a total of $100 million for reserve tools for fiscal year 1955.
>
> Our Office screened the Department items in the $250 million list and approved the most urgent items to fit the $100 million budget.
>
> I would like to emphasize, Mr. Chairman, that the Secretary of Defense, personally * * * did * * * apply himself to the list of machine tools that were proposed for purchase * * *.
>
> Procurement of these long lead-time tools at this time will serve to eliminate bottlenecks in the critical early days of an emergency.
>
> I particularly want to stress at this time that the tools to be purchased with these funds in fiscal year 1956 are bottleneck-type items that would hold up production of high priority military end items because in time of mobilization it would take 12 months or more to deliver from the date of placing the order.

In view of the widespread approval of the Vance committee philosophy, this committee was surprised at the Secretary of Defense's order freezing further contract awards under this program. This committee has since been informed—by press release of January 5, 1956,[3] that $84 million of the $100 million available from fiscal year 1955 funds has been returned to the Treasury and that the $100 million appropriated in fiscal year 1956 is being held "in abeyance." The clear implication of this release is that the Department of Defense is backing away from the Vance committee recommendations.

This release tells us that the Military Departments are now to be permitted to "borrow" from the machine-tool reserve to meet current production schedules. It also states that the reserve will somehow be maintained. It is further stated that each department will henceforth budget for its own tools including mobilization reserves. It gives no assurances that funds will be available to budget for the reserve tool program.

This Subcommittee on Relations of Business with Government will seek during the next 2 days a clear explanation for the new policy. We will want to know how the new policy varies from the Vance committee concept and the reasons which necessitated these changes. What is the long-range impact of this new policy on the health of our machine-tool industry which is of such vital importance to the national defense? What are the replacement programs of each military de-

---

[3] See appendix 2, p. 132, press release issued jointly by ODM and DOD. (Reserve Machine Tool and Facilities Policy.)

partment for combating obsolescence and how are they to be financed? What is the status of the machine-tool inventory and to what extent is it to be dissipated by this new policy? What is the effect of Government leasing policy on our business community? These are but some of the questions which we hope will be answered by the Government witnesses before us today.

During the course of these hearings we will have testimony from representatives of the machine-tool builders and machine-tool distributors associations giving their views as to how the industry can best cooperate with the Government in avoiding damaging machine-tool shortages in another emergency. Let me make clear that these men are appearing at our invitation, not as complainants, but as experts willing to offer their views for coping with a complex problem.

Briefly stated, we have before us two main problems: (1) the adequacy of Government planning to insure against a machine-tool crisis in another defense mobilization, and (2) the adequacy of Government replacement programs to keep machine-tool holdings modern.

I hope that the witnesses will develop a clear picture of current Government policies as they relate to the machine-tool industry. A failure to devise sound policies to assure an adequate number of modern and efficient tools to support a mobilization program will limit our defense capabilities in any future emergency.

We have as our first witness this morning Hon. Harold S. Vance, and then we have also with us Dr. Arthur Flemming, Director of the Office of Defense Mobilization.

So if Mr. Vance will make himself comfortable—I would take that side seat, sir—and then you will have a better opportunity to be heard by the listening audience and also the reporter.

You may proceed, sir, in your own way and pleasure.

STATEMENT OF HAROLD S. VANCE, MEMBER, ATOMIC ENERGY COMMISSION

Mr. VANCE. Mr. Chairman, I was not sufficiently familiar with the scope of this inquiry to have a prepared statement, and therefore I have none, but I will cover whatever field you wish or answer any questions you may ask.

Senator THYE. You make the statement, Mr. Vance, and then we will proceed, if need be, to ask the questions to try to get the answers here, as to why some of your own recommendations have not been carried out.

You may proceed, sir.

Mr. VANCE. Perhaps at the expense of taking a few minutes more of your time, I might say that my familiarity with this problem did not start with the so-called Vance committee in 1953, but actually started in the summer of 1940, when the defense effort prior to World War II commenced.

I came to Washington at that time with Mr. Knudsen in an organization that first was known as the Advisory Commission to the Council of National Defense, and later Office of Production Management, and under Mr. Knudsen had charge of machine tools, among other things.

Of the funds originally provided by Congress for defense preparedness prior to World War II, it was the policy of Mr. Knudsen and his organization to allocate, if you please, a large portion of those funds for the creation of capacity rather than for building end products, to build up a stockpile. That philosophy was not agreed to by everyone concerned with the problem. I think, as a matter of fact, the military departments, in following out their historical position, found it difficult to consider such an abstract thing as capacity as a real military reserve, equivalent, for example, to an inventory of guns or shells, or whatever you may be considering that you could count and say, "Here they are, ready to use at a moment's notice."

Nevertheless, a very large portion of the original appropriations made by Congress was devoted to the creation of capacity, and as it turned out, it was a most fortunate thing to have had happen, because when Pearl Harbor occurred and we got into the war, we had the advantage of a year and a half of anticipation of capacity requirements, and we were able to build planes, guns, and other equipment much quicker than we otherwise could have done. And it is my own personal opinion that perhaps the crisis in the war came a year earlier as a result of that advance preparation.

Now, it was from that point of view that the so-called Vance committee approached this problem. In other words, our principal thesis was that capacity to produce was in itself a military reserve, and that in many respects it was even more important than a stockpile of material.

I call your attention to the fact that this report was prepared and the studies preliminary to it were made in 1952, almost 4 years ago. Since then, there have been some substantial changes in the basic situation. Preparedness obviously has to stem from a war plan. That is the basis of it. I think we are all familiar with the fact that war plans today are different from what they were in 1952. That is particularly true since the test of the first hydrogen bomb in the Pacific in the spring of 1954. I think one of the basic changes in the whole military picture since 1952 is that we now realize that the decision in a third world war, should it occur, is likely to come much quicker than was anticipated in 1952, and that consequently, we will not have a long period in which to produce weapons and other instruments of warfare after war starts, and with those additional items produced after the start of the war, effect, let us say, the conclusion of it.

Stated otherwise, I think there is the general feeling that perhaps the decision will be made to a great extent by what we have in hand when war breaks out, and not what we can later produce.

Senator THYE. Then, Mr. Vance, how are we to interpret the action here wherein the appropriated funds: first, $84 million of that fund was released and now the proposal is to borrow; that is, the military departments are to be permitted to borrow from the machine-tool reserves, to meet current production schedules? What are the answers here? How can we justify the action to release this amount of money, not to make use of it, not to obligate it, and then from what source can they go back and borrow if they do not have adequate machine-tool supplies?

Mr. VANCE. Mr. Chairman, if I interpret this release correctly—and I have not discussed it with anybody in the Defense Depart-

ment—I think it means simply this: The original conception of package reserves was that they would be kept intact in such a manner, in such a condition, that they could be quickly activated if an emergency arose. In certain categories, certainly, that policy should be followed, as for instance in the manufacture of ammunition.

However, there are other categories where it seems to me that the change in the military situation since 1952 makes it desirable that these packages of machine tools be reexamined periodically as this new order provides——

Senator THYE. Well, the type of tools, changes; is that true?

Mr. VANCE. No. I am getting up to the change in the end product.

Senator THYE. Yes.

Mr. VANCE. I think there are other types of packages as, for instance, to build, let us say, aircraft engines where these packages should be continually reviewed and where the borrowing from them for the production of other military items will be a good thing, where the advantage of that borrowing far offsets any disadvantage that might result from the temporary cannibalizing of the package.

Now, let me explain what I mean there, because I think this is of great importance. If it is correct that in another war the decision might have to be made, or might come, from what we have in hand to use when war breaks out rather than what we might later produce, then it becomes very important that the quality of the equipment that we have on hand, for instance, fighter planes, bombers, and so on, be the very best that we can possibly obtain, and that in turn means that as improvements are made, they should be put into production as quickly as possible, and the lag between a new development and the time when it is available in the planes that are on hand is a matter of great importance, the lag of time.

Now, if we can shorten that time when an improvement is developed—if we can shorten the time between then and when it is actually put into the operating equipment on hand, we will thereby acquire a great advantage and that time factor in which an improvement may be put into effect may be shortened considerably by temporarily borrowing from one of these packages a machine tool——

Senator THYE. May I interrupt at that point? How can you have an ample supply of packages if you release the funds that had been appropriated for the purpose of maintaining the packages or the supply in the first instance? How can you borrow from it if you have surrendered the funds and have not added to the package? Then, my question must be, Did we have too many packages to start with, that made it unnecessary to obligate any part of this $84 million that was surrendered?

Mr. VANCE. As to that particular point, Mr. Chairman, I would like to say that the Vance committee did not recommend, nor did it favor, a specific item in the budget for this purpose. And I will tell you, frankly, why we did not——

Senator THYE. How did the $100 million get in the budget?

Mr. VANCE. That was an idea of the Defense Department. It was not ours. You will find no reference to that in our report.

Senator THYE. In other words, the $100 million was as a safety measure in the event your so-called package, or the supply of tools, was such that it was inadequate, and then the $100 million would be

there as cash to finance any addition to your packages of tool reserves? Is that the interpretation that I am supposed to take from it?

Mr. VANCE. Let me tell you precisely what our thought was in that matter. We did not favor the setting up of a particular item in the budget for this purpose, and the reason we did not was because we thought that it was one of those items, one of those kinds of items, which the Appropriations Committee would look at and question, if you will.

We thought the better procedure would be for the military departments to take whatever portion out of their general funds that might be required to purchase equipment in lieu of end products. And I still say that they would be better off to do it that way.

Senator THYE. Senator Sparkman, would you like to ask Mr. Vance any questions at this point?

Senator SPARKMAN. Mr. Chairman, I am going to be able to stay with you only a few minutes. I must go to another committee meeting on another subject which is also an important matter to us.

In order to be absolutely clear in my own mind, you distinguished between the machine tools and the end product. What do you mean by the end product?

Mr. VANCE. By the end product?

Senator SPARKMAN. Yes.

Mr. VANCE. The gun, the shell, the aircraft engine.

Senator SPARKMAN. And you recognize the need, when a withdrawal is made from the machine-tool reserve—you recognize that there may be a need of replacing the tool or of procuring a newer tool, but you think that it can be taken care of out of the general funds, rather than out of earmarked funds? Do I understand that correctly?

Mr. VANCE. Yes, sir. My understanding is, Senator, that the funds appropriated to the three military services may be used either for contracts to develop production capacity or contracts for end products, and that that flexibility is highly desirable, and it seems to me that the extent to which they are used for one purpose or another will vary with each individual situation.

Senator SPARKMAN. What assurance are we going to have that the reserve will be adequately maintained, both in quantity and quality? It would seem to me that so long as the independent fund was available, it did serve at least to give us some method of checking on what was being done, and stood more or less as an assurance to us that the reserve would be maintained and built up.

Mr. VANCE. Well, that would presuppose that the amount of the appropriation was adequate, not too much, not too little.

Senator SPARKMAN. Yes. Well, I believe the appropriation made by Congress—you will admit—was certainly not too much. It had been estimated that $300 million should be spent. Was that not the Vance report?

Mr. VANCE. I think that was approximately correct; yes.

Senator SPARKMAN. Congress made available $100 million and you used about $16 million. You turned back to the Treasury $84 million and asked for no further appropriation.

Mr. VANCE. Of course, that $300 million that was estimated in the Vance report, Senator, was not only for the purpose of acquiring new machines but also, you might say, rebuilding, modernizing, and maintaining equipment.

Senator SPARKMAN. Yes, sir. When we speak of maintaining the reserve, I think of that being included.

Mr. VANCE. That is right.

Senator SPARKMAN. In other words, when I say, "maintaining," I refer to both quantity and quality. When I speak of quality I have in my mind the bringing on of new developments, modernizing the equipment, and so forth.

Mr. VANCE. For example, I have in mind one particular package of equipment for an aircraft engine that I had a good deal to do with in working out the details of the operation of this package with the Air Force, and in that connection these machines are not only maintained in storage; they are also tooled up and the plan provides that every 6 months the machine tool will be turned over. In other words, it will be actually operated to be sure that it is in near perfect condition and can be, with the minnimum of delay, put back in production. That is all part of the picture.

Senator SPARKMAN. I know little about the management of your funds, or your fiscal affairs, but it would seem to me that if you had a fund that was definitely set aside for a certain purpose, we would come nearer having that purpose achieved than if we had to rely on taking it out of the funds that were made available for other purposes.

Mr. VANCE. Of course, Senator, in the ordinary course of things, if you did not have any machine-tool reserve, if you did not have this problem that you are now addressing yourself to, nevertheless, out of the general funds appropriated to the military services, they would have to allocate a very substantial part to the creation of capacity and the reason for that is that designs of end products are constantly changing. The tank they want today is not the one they wanted yesterday. The kind of aircraft engine that we tooled up for in 1950–51 is no longer required. They have been supplanted by other designs. And the changes in design have been so substantial as to mean a new tool-up involving a lot of machines that no longer can be used and a lot of new machines that were not in the original package.

Let me give you an example of that. I am thinking of one particular tool-up that involved in this particular plant, I think, a matter of some $60 million or $70 million, or $80 million, to build the J–47 engine. Now, the J–47 engine was the powerplant for the B–47 bomber.

In 1950–51, that was our main bomber. The whole Air Force program at that time, in the bomber category, was centered around the B–47.

Then the B–52 came along with a longer range, greater speed, greater carrying capacity, and you might say, overnight, the B–47 became an obsolete bomber and its powerplant became obsolete too because the powerplant for the B–52 was an entirely different powerplant, designed by a different organization. One had been designed by General Electric; the other by Pratt & Whitney.

And while some of the machine tools that had been originally secured for the B–47 program could be used on the B–52, there were a lot of them that could not and a lot of new machinery had to be purchased, so that each time you had a major change in the end product, a considerable amount of the funds available to the military department, in the ordinary course of things do have to be used for machine-tool and equipment procurement.

Senator SPARKMAN. In other words, general appropriations are available for the replacement of such tools as you mentioned in connection with the B–47?

Mr. VANCE. Yes, sir; they are.

Senator SPARKMAN. I think it was in one of your releases, following the reduction in the appropriation to $100 million, it was related that the program had been severely trimmed, and that only the most urgent bottleneck tools had been provided for in the $100 million. I certainly got this understanding from reading it myself. Is that a correct inference?

Mr. VANCE. I do not know, frankly, Senator. I might say this, that when Mr. Lovett decided—and he was the one who did decide—that this should be a separate item in the budget—that would be the budget prepared in the fall of 1952 for fiscal 1953—the amount that was originally in the budget was $500 million.

Senator SPARKMAN. I believe, as a matter of fact, your committee report said from $300 million to $500 million, did it not? I took the $300 million as the low figure.

Mr. VANCE. Yes.

Senator SPARKMAN. As I recall, it said between $300 million and $500 million.

Mr. VANCE. My recollection is that Congress appropriated $250 million that first year.

Senator SPARKMAN. I think that is correct. And the next year——

Mr. VANCE. The next year, $100 million, I believe.

Senator SPARKMAN. $100 million. And of that $100 million, only $16 million was spent?

Mr. VANCE. So I am told.

Senator SPARKMAN. And the $84 million was turned back to the Treasury?

Mr. VANCE. But that did not mean, of course, that that was the limit of all the money that was spent for machine-tool equipment.

Senator SPARKMAN. I realize that. I follow you quite well, and I am in full agreement with the statement you made regarding the necessity of changing and keeping up with developments. But it seems to me that just taking it away from the earmarked condition has the natural effect of trimming down the program.

Mr. VANCE. Well, sir, that is a matter of opinion. If properly administered, I say no.

Senator SPARKMAN. Has there been adequate replacement and keeping up with new developments since this new policy went into effect?

Mr. VANCE. I am not in a position to answer that, sir. I have had virtually no contacts with this problem in the last 2 or 3 years.

Senator SPARKMAN. I guess that is really the question you want to decide at these hearings, is it not, Mr. Chairman?

Senator THYE. That is true. That is what we are here for.

Senator SPARKMAN. If I may be excused, I must go to another subcommittee.

Senator THYE. Thank you, Senator Sparkman.

Mr. Vance, in the event you are borrowing, then, if an emergency were to occur and you had to step up to a 24-hour-day shift, would there be sufficient tools to borrow to properly equip your entire productive needs?

Mr. VANCE. If I understand your question correctly, Senator, I would say you would be no worse off, having borrowed than you would have been otherwise, for this reason, that if an emergency arose during the period of borrowing, it is true that you would have only 1 machine and 2 places to use it. But you would have that, anyway.

Senator THYE. Why would you if you had an adequate supply? Then you could fill the two places at once rather than have to wait to develop the necessary tools to fill the second place?

Mr. VANCE. Well, I call your attention, sir, to this release from the Defense Department which reads:

When replacement tools are received, the borrowed equipment will be returned to the original package if required.[4]

Senator THYE. But where do you receive the tool from if you do not spend any money?

Mr. VANCE. You do not receive it if you do not spend money, because the machine tool——

Senator THYE. But when you surrender all the money, then where do you get it from?

Mr. VANCE. The money will come, as I explained to Senator Sparkman, I think, from the general funds of the military department.

Senator THYE. In other words, that is a routine part of the military's industrial plant, in its normal operation? They tool as well as use the equipment. Therefore, why did the Vance committee make a recommendation in the first instance, if there is no necessity, and if the industries, or the Defense Department can take it from their appropriated funds, or funds appropriated to them? Then what is the need of the recommendation that was first set forth by the committee?

Mr. VANCE. The original recommendation of the committee, Mr. Chairman, had as its principal objective this philosophy: that if you create the capacity and maintain it, then you did not have to have such a big stockpile.

Senator THYE. But in time of peace, how can——

Mr. VANCE. I am oversimplifying it, of course.

Senator THYE. How can you maintain that in time of peace when your industrial plants are down at a minimum and still have a reserve to draw on if the emergency were to demand it, because I can readily see that your end use of tools is constantly changing? They do in every type of mechanical device that man has conceived. You do in the civilian needs and we certainly know that the military is no different from the civilian auto or the civilian tractor or whatever other equipment you use. So we know there is a change. I flew in a plane here the other day that had a different power unit than I had been customarily flying in. So I know that some new tools had to be used to develop that power unit. But if you spend no money and you have a new end product, where does that tool come from and where is the surplusage coming from that you want to have if the emergency hits?

Mr. VANCE. Well, let me say this, sir. If I understand this situation correctly, a very considerable amount of money is currently being spent.

---

[4] See appendix 2, p. 132.

Senator THYE. You mean by the Defense Department?

Mr. VANCE. Yes; to maintain these packages of machine tools and other equipment, to reactivate it. But these expenditures are not coming out of this particular fund.

Mr. STULTS. Do you think that current spending runs in the nature of $300 million to $500 million a year?

Mr. VANCE. I haven't the slightest idea what it runs to. No; I would not think it does.

Mr. STULTS. One other point. When Congress cut from $250 million to $100 million a year, it was criticized directly and indirectly. Furthermore, when the appropriations for fiscal year 1955 and fiscal year 1956 came up, the military told Congress, "We have to have $100 million for this purpose, and we are going to be using every penny of all our other funds."

Now, either they had a lot of fat, if we could call it that, in their budget, which allows them to take $100 million out of other funds, or they are not doing the job.

Now, Senator Thye as a member of the Appropriations Committee, as well as this committee, certainly must question if there is $100 million worth of unobligated funds in the budgets of the military departments that can take up this slack.

Mr. VANCE. As to whether or not they are reasonably maintaining this equipment, I would say they question should be addressed to the Defense Department and not to me, because I can only guess at it.

Mr. STULTS. Yes, sir. Your Vance committee did meet, however, 7 years after, let us say, the atomic age started. So you recognized that there might be a war of short duration. Nonetheless, your recommendation was that we do have these elephant tools, the bottlenecks.

Mr. VANCE. Correct.

Mr. STULTS. You saw what happened in Korea, where we did not go into an all-out war, but a smaller sort of fracas.

Mr. VANCE. Correct.

Mr. STULTS. Now, when the Defense Department's press release of January 5 says that you were fully consulted and concur in this new policy, did they present facts that demonstrated to your satisfaction that we are not likely to have another Korea? Or that we are now in much better shape as far as tools go than we were in 1952 or 1953, when your committee went into this?

Mr. VANCE. No, we have not recently explored it in detail; no, sir.

Mr. STULTS. But you were convinced at that time that the military could take up the slack of the $100 million by utilizing funds which Congress appropriated for other purposes?

Mr. VANCE. That is right.

Mr. STULTS. Thank you.

Senator THYE. All right, Mr. Vance, you may proceed, if you care to make a further statement on the question.

Mr. VANCE. I do not think I have anything further to say, Mr. Chairman.

Senator THYE. Thank you, Mr. Vance.

Mr. VANCE. Thank you.

Mr. STULTS. May I say, Mr. Chairman, that Commissioner Vance has been very courteous to come. He is late for a meeting of the Joint

Committee on Atomic Energy, which is your first meeting, I suppose, as a new Commissioner?

Mr. VANCE. Right. I expect that I probably will not be treated quite as courteously over there as I have been here, sir.

Senator THYE. Mr. Vance, we always endeavor to treat everyone courteously, and you are a gentleman whom we would always find everyone trying to treat courteously.

Mr. VANCE. Thank you, sir.

Senator THYE. Yes, sir.

Then if we may have Mr. Flemming, please.

Dr. Flemming, how are you this morning?

Mr. FLEMMING. Fine, Mr. Chairman.

Senator THYE. Good.

You have heard some of the statements, Dr. Flemming. You may proceed. If you have some of the answers, we will be very appreciative.

STATEMENT OF DR. ARTHUR S. FLEMMING, DIRECTOR, OFFICE OF DEFENSE MOBILIZATION

Mr. FLEMMING. Mr. Chairman, I will be very glad to address myself to the question that is uppermost in your mind in connection with this hearing.

Like Commissioner Vance, I did not know in advance that this was the primary question that was going to be discussed; so I do not have a prepared statement, but I am very happy to address myself to the question.

I think first of all, probably in order to help clarify the situation, it might be well for me to read Defense Mobilization Order VII–4 as amended. This incorporates the amendments into the order. It is short and I think if I read this, it will be in the record, and I think it might help us in connection with our discussion.

This order now reads as follows:

In order to maintain a highly effective and immediately available machine-tool and production-equipment reserve for the mobilization readiness program of the United States Government, the Office of Defense Mobilization sets forth the following policy on Government-owned production equipment including machine tools.

I. DISPOSITION OF PRODUCTION EQUIPMENT

A. *Department of Defense.*—Production equipment owned by the Department of Defense for which there exists a known or anticipated defense mobilization need should be held in efficient operating condition in "packaged form" ("packaged form" means a complete complement of production equipment and tools capable of producing a particular military item or items at a particular plant) at or near the plants which will operate them in event of an emergency. In the event no such storage arrangement is possible, the equipment may be stored in central Government warehouses, but, in such cases, all efforts should be exerted to maintain intact complete complements of production equipment and tools. In those cases in which complements of equipment are not wholly Government owned, every effort should be made to keep as much as possible of the total equipment complement in packaged form.

All equipment in "packages" shall be reviewed at least once each year to insure their essentiality to mobilization requirements and to guard against obsolesence. "Packages" or parts of "packages" found to be obsolete or no longer essential to mobilization requirements shall be reported by the military departments to the Department of Defense as idle equipment to be screened for redistribution or disposal.

In any instance in which the military departments cannot meet urgent production schedules because production equipment essential to this end is not immediately available within the Government or from private industry, equipment in "packages" shall be made available on a loan basis for this purpose until it can be replaced by equipment from other sources. Upon the termination of such loans the borrowed equipment, if required, will be returned to its "package."

Recognition of the need for the continued maintenance of a modern and efficient production equipment mobilization base and Department of Defense planning and programing toward that objective would be advanced by the inclusion and consideration of requests for the following purposes as part of the regular annual budget cycle:

(1) Procurement of equipment to meet current production schedules, including equipment necessary to permit return of items borrowed from "packages."

(2) Replacement of obsolete items in "packages" by equipment currently regarded as efficient for the purpose.

(3) Provision for modernization and replacement of production equipment to keep pace with technological advances in both munitions design and in equipment essential to its efficient production.

B. *Other Government agencies.*—Production equipment owned by Government agencies, other than the Department of Defense, should be stored adjacent to manufacturing establishments only if there exists a known or anticipated defense mobilization need therefor at such location and if storage arrangements provide for the maintenance of the equipment in efficient operating condition. Where adjacent storage is not required to meet a known or anticipated defense mobilization need, the equipment should be placed in storage by the owning agencies under the most economical arrangements that are compatible with maintenance of the equipment in efficient operating condition.

C. *Nondefense leasing.*—No Government-owned production equipment shall be leased for non-defense-production purpose except when plans for such leasing have been prepared by the owning agencies and approved by the Office of Defense Mobilization.

2. Scope of policy

The policy guidance set forth herein shall relate to all Government-owned production equipment, as defined in supplement A to DMO–18, whether or not such equipment is included in the inventories established by DMO–18–A and DMO–18B. This order is not designed to affecting any existing leases of Government-owned production equipment.

3. Reports

Periodic reports of operations under this policy will be submitted to the Director of the Office of Defense Mobilization and made public by him.

Mr. Chairman, in reading the annual report of the Select Committee on Small Business [5] and particularly that portion of the report dealing with the machine-tool industry, I find that your committee included this paragraph, which, it seems to me, is very relevant to the discussion we are having at the present time. The committee said this:

The rapid technical advance in the design of machine tools in the last few years raises serious questions about the obsolete character of the Government inventory. Despite the increment of some machine tools during the Korean emergency, the major portion of the Government-owned inventory is of World War II design and is 11 to 15 years old. Your committee notes that the executive branch is doing little to correct this situation and that in a very real sense the Government inventory is a wasting asset. Despite evidence that a sound replacement program would pay for itself in operating economies over a few years, programs for the replacement of machine tools and other industrial equipment universally receive a low budget priority.

Senator THYE. Doctor, if I may interrupt at that point, how do we justify the action of surrendering the budgetary funds appropriated, or the funds appropriated?

---

[5] S. Rept. No. 1368, 84th Cong., 2d sess., p. 94.

Mr. FLEMMING. Mr. Chairman, it seems to me that that particular question simply deals with a method for implementing, first of all, the recommendations of the Vance committee, and now implementing what I would regard as a much more, shall I say, modern and up-to-date policy than the Vance committee recommended.

Senator THYE. Then can you——

Mr. FLEMMING. Could I continue?

Senator THYE. I beg your pardon, Doctor.

Mr. FLEMMING. I was just going to say there that in the beginning, and as Mr. Vance has already pointed out, as I understand it, Secretary Lovett decided that possibly the best way in which to implement the recommendation of the Vance committee was to ask for this overall fund which would be under the direction of the Secretary of Defense. And the history of that has been outlined here.

Now, as I understand the position of the Defense Department at the present time, they are simply saying that they have decided that we can do a more effective job of implementing those portions of the Vance committee report that we feel should be implemented and of implementing this new policy, if we require the services to include in their budgetary requests each year the funds that they feel they need in order to carry out the kind of policy which I have just read.

Mr. Chairman, I have been assured that the present condition of the funds in the Department of Defense is such that they can certainly make a very good start in the direction of implementing this new policy which I have just outlined, and which I feel is a policy which, as Mr. Vance has indicated, is more closely related to our present strategic concepts than the Vance committee report of 1952. And that is not any criticism of that report, because a lot has happened, as Mr. Vance himself has pointed out, since that report was issued. In other words, what the Department of Defense is saying here to the services is: "Here is an overall ODM policy. It is up to you to carry out that policy. It is up to you to develop the requests for funds that are needed to carry out that policy. We will review it in connection with our regular budgetary review," that is, the Defense Department, at the Defense Department level. And, of course, they will review it in the light of whether or not the services are really carrying out this policy. And I assume, Mr. Chairman, that when the presentations are made to the Appropriations Committees of the House and Senate, of course, they will be in a position to indicate just how those appropriation requests are related to this policy.

Personally, I think that this latest decision of the Department of Defense rests on sounder management grounds than the earlier decision, because what it is saying to the Army, Navy, and Air Force is: "You cannot pass the buck to the Department of Defense for the carrying out of this policy and say, 'we will do just whatever you allow us to do and whatever you allocate from this particular fund.'"

The Department of Defense is saying to the three services: "It is your job to carry out this policy. It is your job to price it out, and it is your job to make the request." I think that is better management.

Senator THYE. Well, Doctor, now, you are the Director of the Office of Defense Mobilization.

Mr. FLEMMING. Right.

Senator THYE. Then what are your responsibilities? Have they been taken away from you?

Mr. FLEMMING. No. Mr. Chairman, here is the policy. I mean, it is a function of the Office of Defense Mobilization to develop policy and then it is our function to assign operating responsibilities to the departments and agencies to operate in conformity with that policy. I have every assurance——

Senator THYE. Then you are checking to determine that there are the supplies of the necessary tool packages, so that if this Nation were confronted with an emergency that would require a greatly stepped-up production, there would be an adequate supply of tools and reserve packages so that they could be drawn upon to properly equip and tool the plants to proceed with an expanded production?

Mr. FLEMMING. Let me put it this way, Mr. Chairman. I have every assurance from the Department of Defense that they will issue the directives and request the funds needed to carry out the policy which I have just read to you. You will note that my policy calls for periodic reports from the Department of Defense as to what progress they may make, let us say, over a period of the next 6 months in the direction of achieving the objectives that are set forth in this particular policy.

If I found that adequate progress was not being made, as the representative of the President, it would be my responsibility to make representations to the Department of Defense, and, if necessary, to the President himself. If I felt that the requests for funds for this purpose had been passed on in such a way by the Congress as to make it difficult for the Department of Defense to adhere to this policy, of course, I would have an obligation of saying so.

Senator THYE. Are you satisfied that there was an adeqate supply when the $84 million were returned?

Mr. FLEMMING. Mr. Chairman, as I see it, that is not a question of whether or not $84 million is or is not going to be spent. I am sure that in order to carry out this policy a great great deal more than $84 million will be spent by the Army, the Navy, and the Air Force.

Senator THYE. In other words, they are spending this from their own appropriated funds?

Mr. FLEMMING. That is right, Mr. Chairman. All the Department of Defense is saying to the Congress, in effect, is, "We have decided that we would just as soon not operate this way and put the services in a position where they can, in effect, put responsibility on us. We are saying to the services, 'You figure out what you need in order to conform to this policy. You put it in your budget request. We will review it at the Department of Defense level.'"

Senator THYE. You had a question, Mr. Stults?

Mr. STULTS. Several questions.

Do they have $100 million worth of fat in this last year to bring it up to snuff, do you think?

Mr. FLEMMING. Mr. Chairman, I am sure that you would not expect me to have the details of the Department of Defense budget in mind. I notice that Department of Defense witnesses are here. They are going to testify, and I am sure that they will be able to indicate just what their fiscal situation is. The only thing I am convinced of is that they are determined to carry out this policy. Now, the method they use does not worry me particularly, as long as they carry it out.

Mr. STULTS. You are determined, despite the fact that you have indicated that you are not completely satisfied with the state of our machine-tool reserve at this time——

Mr. FLEMMING. Of course, I am not. This policy is a reflection of that. This policy goes way beyond the recommendation of the Vance committee. This policy, it seems to me, is designed to meet directly the criticism that this committee made, and I think a valid criticism relative to the status of our machine-tool inventory. In other words, this committee said, "It is not modern enough. It should be modernized, and a program should be put under way to bring about its modernization." This policy is designed to do just exactly that.

Mr. STULTS. You are the one man that is held responsible for the overall defense mobilization picture. I wonder if the military is so eager to get on with it, why were they unable to use first $250 million, then $84 million, then $100 million? Let us assume that even though there are binding appropriations and money elsewhere, that they still could have used this $434 million, and we still would not have a perfect reserve.

Mr. FLEMMING. Mr. Chairman, I go back to my original statement—let me preface it this way. Mr. Vance indicated in his testimony that his committee did not recommend the establishment of an overall fund in the Department of Defense. The fact of the matter is, they were opposed to it. They did not regard it as good management. Nevertheless, the Department of Defense—reasonable people can differ on something like that—decided that it would be a good thing to do from a management point of view. They tried it out. They have obviously arrived at the same conclusion that the Vance committee arrived at back in 1952, that it does not work very well that way. So they have gone back to the original concept of the Vance committee, namely, to keep the operating responsibility with the services, which I think is better management myself.

Now, people can differ on it, but it just seems to me that the Vance committee was right in the first place, as Mr. Vance has indicated here this morning.

Senator THYE. There is no question in your mind, Doctor, but what there is an adequate supply of tools in reserve and a modern tool that would meet every end requirement, and that you, as Director, are constantly going about seeing that the obsoletes are screened out in order that your supply is current, meeting the modern requirement, and that you would have an ample supply in the various branches of Government to meet every emergency that you anticipate?

Mr. FLEMMING. Mr. Chairman, there is serious doubt in my mind that we are in that kind of situation. That is why I have issued this policy. That is why I am for this new policy. That is why I hope that the Department of Defense will do as they have indicated that they will do, namely, put real drive back of achieving the objectives that are set forth in this policy. If the objectives that are set forth in this policy are achieved, then we would be in a much stronger position than we are in at the present time as far as machine tools are concerned.

Senator THYE. And you are moving toward the achievement?

Mr. FLEMMING. That is correct. And I am sure that the Department of Defense witnesses will be able to point out the steps that they intend to take in order to implement this policy.

Senator THYE. Thank you.

You may proceed, sir.

Mr. FLEMMING. Mr. Chairman, on this particular point, I do not think that I have anything further to say. What I would say would simply be repetitious of what Mr. Vance has already presented to you. But I am very willing to respond to other questions regarding this or other phases of the policy. As you know, Mr. Chairman, I think some weeks ago we filed with the committee a rather detailed statement of the various activities of the Office of Defense Mobilization within the machine-tool industry.[6] And, of course, I would be very glad to respond to any questions on any of the points presented in that report.

Senator THYE. Have you any further questions, Mr. Stults?

Mr. STULTS. Where did the new policy originate?

Mr. FLEMMING. That is one of those things that grow out of joint discussion between the Department of Defense and the Office of Defense Mobilization. Very specifically, the Deputy Secretary of Defense and myself first started talking about it, and the desirability of brining it up to date, and giving it an emphasis that is consistent with the new strategic plans under which we have got to operate.

Mr. STULTS. Dr. Flemming, elephant machine tools, these great monsters, may take as long as 2 years to develop and produce, if I remember. Do you feel that the military is likely to knock out an end item and instead use that money for something that is 2 years off as production equipment and maybe 4 years off as an end item?

Mr. FLEMMING. Well, of course, that is a kind of hypothetical question, in which I would be required to probe the thinking of the Defense Department as to what they might do with this specific situation put before them. I do not know just how they would do it. I think we would have to have an actual case in front of us and have the opportunity of weighing all the factors that are involved in an actual case.

Mr. STULTS. The reason I asked that is this, Dr. Flemming. The military has been given some $450 million by Congress to go out and purchase just these kind of tools. It was, if you will, handing it to them on a silver platter and saying, "Congress feels, and Assistant Secretary Pike just 6 or 8 months ago came up and told the Appropriations Committee, that it is very necessary that we have this $100 million." Now, even with that $450 million, only $16 million was obligated. For some reason, they have been slow. But you feel that these same men will be much faster if you do not give them the money earmarked for this purpose?

Mr. FLEMMING. Look. While this process was going on, the services were presenting needs for machine tools which totaled up to an amount far in excess of the $100 million. Now, what the Department of Defense is saying to the services now, as I understand it, is, "O. K. Put that in your budget for next year and come in and defend it, just as you defend any other item."

And I am sure that when the Army, the Navy, and the Air Force defend their request for funds for machine tools before the Secretary of Defense or the Deputy Secretary of Defense, that their requests for funds will be judged in the light of the policy which I have just read and which I have just issued. I am convinced of that.

---

[6] See appendixes 4 and 4a beginning p. 137 for correspondence between the chairman of the Senate Small Business Committee and Dr. Flemming.

Senator THYE. Dr. Flemming, no one should criticize any agency of Government that releases back to the Treasury $84 million.

Mr. FLEMMING. That is right.

Senator THYE. And you are to be commended. Now, the only question that we are confronted with is——

Mr. FLEMMING. That is, the Defense Department should be commended for that, and not ourselves.

Senator THYE. The only question that we are confronted with is this. Did this money return at the expense of an inventory of adequate and proper and current tools? Now, that is what we are trying to ascertain.

Mr. FLEMMING. That is right. And I——

Senator THYE. And to your best judgment, the new tools are available, and the packages are sufficient in number so that if emergencies do occur, the best of judgment of you and others, and your associates, is that you would have a sufficient supply of tools; is that what I am to understand?

Mr. FLEMMING. No, Mr. Chairman, you are not to understand that.

Senator THYE. That is what I want to be certain of.

Mr. FLEMMING. You are not to understand it.

Senator THYE. Then I want to know whether you did not succeed in prevailing upon the proper authorities that they should not have surrendered the $84 million.

Mr. FLEMMING. Mr. Chairman, may I go back again and say that I am not happy about the present state of the machine-tool inventory.

Senator THYE. Then who is responsible? To whom do I point my finger as a little subcommittee chairman here?

Mr. FLEMMING. All right. Now, if I could just take it step by step here——

Senator THYE. Thank you.

Mr. FLEMMING. I am not happy about it. That is reflected by the issuance of this new policy statement,[7] which, as I have said, I think goes a number of steps beyond the Vance committee report and in the right direction as far as our current defense program is concerned.

I am absolutely convinced that the Department of Defense will take every step that it is necessary for them to take in order to carry out this policy. Now, all they have decided is, if I understand their decision on this $84 million—all they have decided is that they think they will make more rapid progress in the direction of achieving the objectives that are set forth in my policy if they require the services to include the amounts that the services will feel that they need for machine tools in their annual budgets and present their requests to the Department of Defense.

Speaking as one person, I concur in their judgment. I think they will get better results this way as contrasted with having one of these overall funds in the Department of Defense because, Mr. Chairman, it seems to me it is just human nature: As long as that overall fund was there, the services could very properly say, "Look, we have done everything we could. We have presented requests to the Department of Defense for money that we could use for this particular purpose, and they have allocated us so much, and that is it. Therefore, we don't have any more responsibility."

---

[7] See appendix 3, p. 133.

The Department of Defense, as I see it, is trying to reverse that.

Now, also, I think that we ought to keep this in mind, that this policy is, instead of narrowing the limits within which the Department of Defense and the Government will operate on this machine-tool matter, it seems to me broadening it considerably.

Take this paragraph in the joint announcement:

> The committee's findings are still—

this is referring to the Vance committee—

> are still considered basically sound. Experience gained over the past 3 years, however, has demonstrated a need for adjustment.[8]

The announcement stated that the program as originally established was restricted to the procurement of tools for mobilization use, that is, to be used after M-day, and did not provide for current use of tools or the procurement of replacements for obsolete items.

Mr. Chairman, we are placing a great deal more emphasis on the importance of our current production and mobilization program today than we did in 1952, for the reasons that Mr. Vance has so effectively outlined. And consequently, it was the feeling on the part of the Department of Defense, in which I concurred, that the previous policy growing out of the Vance committee report was too restrictive, because they could only use those funds to procure tools for mobilization use.

As Mr. Vance has pointed out today, it is very important for us to be in a position to provide for current use of tools or the procurement of replacements for obsolete items, because of the emphasis that we must of necessity place on the magnitude and the efficiency and the effectiveness of our current defense mobilization program.

I am sure, Mr. Chairman, that when Mr. Vance and his committee reported in 1952, they did not visualize in their own minds that in 1956, January 1956, the President of the United States would be submitting a request to the Congress for a budget for defense purposes of $35.5 billion. No one thought that we would be moving forward at that particular level, as far as our current program is concerned.

Senator THYE. In other words, Doctor, the plant productive capacity is at such a state that the tools are in use, and therefore there is not the necessity of having a reserve pool lying here under a supervised inventory?

Mr. FLEMMING. Well, let us put it this way, Mr. Chairman. It seems to me that instead of having an "either/or" situation, as Mr. Vance's committee thought confronted him in 1952, we have a "both/and" situation.

You see, at that time they said "Don't put too much emphasis on stockpiling end items. Put your emphasis on procuring the tools which you could use to produce end items."

Today we are saying "We have got to emphasize both end items, the procurement of end items, and also we have got to keep ourselves in a position where we could step it up if we had to step it up at some point in the future," because I agree with—I think the question that was asked me——

Senator THYE. Doctor, for those of you who are not familiar with the bells, two bells call for a quorum, and this long bell is a vote over on the Senate floor. So if I may do this, because we all have to be

[8] See appendix 2, p. 132.

on the floor—you are all assembled, and I would not like to see you busy people sit and wait for our return; and for that reason, if I may permit the counsel and the director, Mr. Stults, to continue on with the hearing, then we can develop the testimony in that manner, because in that way we can save your time, because following Dr. Flemming here will be the Honorable Thomas Pike, the Assistant Secretary of Defense, and I would like to leave that arrangement, so that you need not have wasted this morning in coming here. So I am going over on the floor, and I will return just as rapidly as I can.

It was nice seeing you, Doctor, and I am sorry that I have to run over for the moment. But we will proceed with the hearing in this manner. I will be back just as soon as the rollcall is completed.

Mr. STULTS. Is that all right with you?

Mr. FLEMMING. Surely it is.

Mr. STULTS. I might announce that we also will give this transcript to all five members of our subcommittee. Several of our witnesses have indicated that they would not be able to come back tomorrow, so that we would like to rush through.

Mr. FLEMMING. That is perfectly all right.

Mr. STULTS. I think that perhaps we have given you a going over to try to bring out the sort of information that we would like to find. Specifically, we have gotten your assurance that you will see that the concept of adequate tooling, whether it is in a reserve pool or on a production line, will not be ignored.

Mr. FLEMMING. Right.

Mr. STULTS. Secondly, we originally got into this problem, as you know, back in 1952, because of the difficulties being faced by the machine-tool builders themselves.

Mr. FLEMMING. Right.

Mr. STULTS. This is a feast or famine industry composed largely of small units of production, who unfortunately always seem to have famine just before we need them most. And then we call upon them and damn them all the way from here across the oceans because they are not able to produce the sort of tools in the time that we need them.

So the committee has received that assurance from you, Dr. Flemming, and we are certainly grateful to you.

Mr. Foulke, do you have any questions?

Mr. FOULKE. No.

Mr. STULTS. Mr. Odom?

Mr. ODOM. No.

Mr. STULTS. Thank you very much.

Mr. FLEMMING. All right, sir. I am very happy to be here. And if as a result of your hearings there are any points that are called to the attention of the committee that you think I should get into, in the light of my overall responsibility in this particular area, I will certainly be very happy to have you get in touch with me regarding them, because it is very clear to me, as the chairman has pointed out, that the overall responsibility is fixed with the Director of ODM.

As you well know, we do not operate. We feel that the way to discharge that responsibility is to set a policy, to be clear in indicating what departments and agencies we expect are going to carry out that policy, and then to check up from time to time to see that there is adherence to the policy. And consequently, (*a*) any evidence indicating

that maybe the policy can be strengthened is evidence in which we are very much interested, and (*b*) certainly any evidence indicating that there is not adherence to the policy is evidence in which we are interested, and we will act on the basis of any representations on either point.

Mr. STULTS. We will hear later from representatives of the industry. We may very well ask you for a written comment at the conclusion of this hearing on specific points that are brought up at that time.

Mr. FLEMMING. I will be very happy to.

(Following is the information subsequently supplied by Mr. Flemming in response to Senator Sparkman's request:)

EXHIBIT 1

UNITED STATES SENATE,
SELECT COMMITTEE ON SMALL BUSINESS,
February 13, 1956.

Dr. ARTHUR S. FLEMMING,
Director, Office of Defense Mobilization,
Washington 25, D. C.

DEAR DR. FLEMMING: I wish to thank you for appearing before the Subcommittee on Relations of Business With Government, February 7, to discuss important matters of Government policy relating to the machine-tool industry. In reading your testimony, I noted your kind offer to supply additional data, by letter, if required. It is in this spirit, then, that I ask your comments on the following questions:

1. You testified that you are not happy with the current status of the machine-tool inventory and that your dissatisfaction is the reason for the new ODM-DOD policy. Would you please describe what safeguards you are employing, or believe advisable, to make certain that the high purposes of your directive are achieved by each military department, despite conflicting budgetary demands. What type of reports are you ordering? Are you requiring the military departments to break out their machine-tool program into a single budget so that you and the Congress can determine its progress?

2. Would you provide a report as to current ODM planning relative to wage policies, material availability, etc., which bears on the ability of the machine-tool industry to produce in a future emergency?

3. What is the status of the so-called turbine gear program for which you have allocated some $70 million? Testimony before the subcommittee indicated that this program was being delayed by budgetary considerations.

4. Would you provide a current status report as to the elephant tool reserve program? I understood from your letter of January 12 that this program would be active by this time; however, I got the impression that budgetary considerations were also delaying this program.

I appreciate your deep concern with the serious problem of maintaining a modern government machine-tool inventory and I wish you every success in your endeavors. If you wish to bring your letter of January 12 up to date in any regard, or to express any additional views, I would be glad to receive them for the record. In order that the hearing record can be completed soon, I would appreciate your reply within the week or at the earliest possible time.

With kindest personal regards.

Sincerely yours,

JOHN SPARKMAN, *Chairman.*

EXHIBIT 1 (a)

EXECUTIVE OFFICE OF THE PRESIDENT,
OFFICE OF DEFENSE MOBILIZATION,
OFFICE OF THE DIRECTOR,
Washington 25, D. C., February 27, 1956.

Hon. JOHN SPARKMAN,
Chairman, Select Committee on Small Business,
United States Senate, Washington 25, D. C.

DEAR SENATOR SPARKMAN: This has reference to your letter to me of February 13, 1956, in which additional information was requested for the record of the

recent hearing held by the Subcommittee on Relations of Business With Government.

The points mentioned in your letter are covered below in the order in which they were enumerated therein.

1. In reference to your question relative to the safeguards we are employing to see that our newly revised tools policy is carried out, Defense Mobilization Order VII–4 contains a requirement that periodic reports under this policy be submitted to the Director of the Office of Defense Mobilization. This is not a new provision, but one which has been in this order since it was first issued on October 9, 1953. Under it we have required all of the principal tools-owning agencies of the Federal Government to make periodic reports to us. The data contained in these reports have supplied us with factual insight into operations and degree of accomplishment under the policy in force.

We have already had preliminary discussions with the Department of Defense with respect to additional information to be included next time to reflect progress made under the policy, as revised on January 6, 1956. This will cover progress made on such matters as review of existing inventories, extent of tools borrowing from packages, and the status of procurement of replacements. Our order has been implemented by DOD Directive 4215.9 of February 3, 1956. This directive gives the services 180 days to review packages and to report findings. We, consequently, expect to have rather complete information on these topics about September 1, 1956.

Military budgeting with respect to funds for production equipment and facilities is being reported to us in rather comprehensive form by the DOD Monthly Report on Status of Funds by Budget Category, which we regularly receive. The latest one of these showing the status of funds as of November 30, 1955, is designated as EISED–290, which is issued periodically by the Assistant Secretary of Defense (Comptroller). The status of funds for each of the military departments is shown both separately and combined in this report. In our discussions with the Department of Defense with respect to future operations reports, we plan to explore the feasibility of asking that the budget status report be modified somewhat to provide additional detail.

2. On the matter of wage policies, work is being done to prepare the basic measures necessary to initiate a wage stabilization program if such should become necessary in a future emergency. At this time, no effort is being made to guess the wage levels, standards, or criteria that might be needed under future emergency conditions to administer a wage stabilization program.

Production plans for use in the event of mobilization include special provisions to assure the early establishment of production levels and schedules of machine tools to meet military and other mobilization production demands for this equipment. They also include provisions to assure adequate supplies of materials and components to builders of machine tools to meet their approved schedules. The main features of these plans and preparations with respect to machine tools are:

(*a*) The retention on the books of the Business and Defense Services Administration Order M–41. This order presently in operation provides the framework for expediting deliveries of tools needed to support present military production programs and also contains in standby operating effectiveness the machinery for directing the distribution of these tools to meet expanded military requirements in event of mobilization.

(*b*) The M-day pool-order program, which has been covered in some detail in our report to you of January 12, 1956, item 8, page 11.

(*c*) Studies are maintained by the Business and Defense Services Administration which will assure the availability of necessary production and materials consumption data to permit bringing the machine tool industry and its mobilization production under the defense materials system. This will permit the Government to schedule production shortly after M-day and to provide preference to builders for the materials and supplies they will need to maintain their production schedules.

3. The turbine and turbine-gear program was held up after its approval by the Office of Defense Mobilization to permit an interagency study group and the companies involved in the program to review the lists of tools and equipment to insure that the tools would meet current needs. These groups also surveyed Government tool inventories to determine if some of the needed tools could be found in these inventories. We are happy to say that a substantial number of tools were found in idle inventories.

The reason funds have not yet been allotted to this program is that some questions have been raised concerning the proposed ship-production schedules which

served as a basis for the turbine requirements. We are working actively on these questions and expect to have them resolved at an early date.

4. The current status of the elephant tool-reserve program was accurately reflected in our January 12, 1956, report to you, item 5, page 8. It will take another 6 to 9 months to complete the more detailed studies now in progress before precise deficiencies will be known to the extent necessary for the placing of orders. No budgetary problem is anticipated in financing Government purchases for this program. Preliminary studies have revealed no need for any broad-gage program for Government-financed purchase of such tools and the funds needed will consequently be relatively small. Those that are needed will be supplied through use of the borrowing authority provided in the Defense Production Act of 1950, as amended.

It was a pleasure to appear before your committee, and if there is any further information we can supply or any other way in which we can be of assistance, please call on us.

Sincerely yours,

ARTHUR S. FLEMMING, *Director.*

Mr. STULTS. Secretary Pike.

Mr. PIKE. Good morning Mr. Stults.

Mr. STULTS. Thank you very much for coming over.

This is Mr. Odom, our chief counsel, and Mr. Foulke.

Mr. Secretary, this is an embarrassing situation in which I find myself. I have just received word that Senator Sparkman will be over here as soon as he can vote. But I do think that we might as well proceed, if that is all right with you.

STATEMENT OF THOMAS P. PIKE, ASSISTANT SECRETARY OF DEFENSE (SUPPLY AND LOGISTICS); ACCOMPANIED BY JAMES P. NASH, OFFICE OF THE GENERAL COUNSEL, DEPARTMENT OF DEFENSE; AND JOHN H. WILLIAMS, CHIEF, PRODUCTION EQUIPMENT BRANCH, OFFICE OF ASSISTANT SECRETARY OF DEFENSE (SUPPLY AND LOGISTICS)

Mr. PIKE. Very good, sir. I have a prepared statement which I should like to read for the record here, after which time perhaps we can get into some of the questions that have been raised by the two previous witnesses, and on which perhaps I might be able to shed a little light from the standpoint of the Department of Defense.

If it is satisfactory, I will proceed with the reading of the statement.

Mr. STULTS. Yes, sir.

Mr. PIKE. I wish to thank you for this opportunity to appear before your subcommittee to discuss Department of Defense policy and programs in the area of machine tools for mobilization.

It is the policy of the Department of Defense to retain and maintain for mobilization, production equipment which would be required to equip Government-owned production facilities and to augment privately owned equipment in privately owned plants for the purpose of fulfilling military production requirements. Our policy is in accord with the recommendation of the Advisory Committee on Production Equipment, commonly referred to as the Vance plan, in its report to the Director of Defense Mobilization in January 1953.[9]

The principle finding of that committee was that maximum security can be achieved with maximum economy by maintaining production plans in a high degree of readiness, capable of rapid expansion of

[9] See appendix 1, p. 115.

output in the event of war and relying upon such readiness as a partial substitute for stockpiling of reserves of military end items. Accordingly, the committee recommended that production capacity should be substituted for the stockpiling of military end items to the greatest extent practicable.

In implementation of this policy and in accordance with Office of Defense Mobilization directives, we have provided that reserve production be maintained in the following order of preference: First, maintaining the equipment in place in the facility where it was last operated for its intended mobilization purpose. Secondly, maintaining the equipment on site or adjacent to the point of last use for its intended mobilization purpose. Finally, if neither of the above arrangements can be made, maintaining the equipment in centrally located warehouses properly earmarked for its intended mobilization use. In addition there is another category of items that are of the type that will be required for general expansion of production for military end items which experience has indicated must be retained for mobilization purposes.

In connection with the maintenance of package plants, standby lines and active base packages the military departments are required to reevaluate the retention of the equipment against planned requirements once every year. The remainder of items will be evaluated every 2 years and the military departments are directed to carry out specified standard tests to determine the operating capabilities and characteristics of the tools where such data is not already ascertained.

Recently the Secretary of Defense issued a new directive which is actually a revision of a former directive on utilization of idle production equipment. Under the new directive certain improvements will result which were necessitated by current conditions.

(Department of Defense Directive No. 4215.9, February 2, 1956, follows.)

EXHIBIT 2

February 2, 1956
No. 4215.9

DEPARTMENT OF DEFENSE DIRECTIVE

Subject: Recording and utilization of idle production equipment.
Reference: (*a*) DOD Directive 4215.9 (Recording and Utilization of Idle Production Equipment) dated August 18, 1953, as amended.

I. Purpose

It is the purpose of this directive to prescribe policies and procedures for reporting and redistributing idle machine tools and certain other related production equipment owned or controlled by the Department of Defense.

II. Cancellation

Reference (*a*) is hereby canceled.

III. Policy

It is the general policy of the Department of Defense that it is essential that machine tools and other related production equipment owned or controlled by the Department of Defense be managed and utilized in a manner which will—

A. Provide a reserve of production capacity for immediate use in the event of mobilization.

B. Avoid unnecessary delays in current production programs by using idle production equipment, including, if essential, that equipment in package plants or in standby lines, or active base packages.

C. Permit sound decisions to be made in the expenditure of funds for such equipment.

D. Provide maximum possible cross servicing.

E. Permit sound planning to be done with the machine tool and related production-equipment industries in connection with current and mobilization problems.

The redistribution of idle machine tools and other related production equipment will be in support of the above policy.

IV. Definitions

A. *Production Equipment Redistribution Group (PERG).*—An organizational unit of the Department of Defense established for the purpose of administering the production equipment redistribution inventory (PERI) and allocation of machine tools and other related production equipment listed therein.

B. *Production Equipment Redistribution Inventory (PERI).*—An inventory record of idle departmental and national industrial equipment reserve (NIER) machine tools and certain key types of other related production equipment. It is maintained by PERG for the purpose of providing a central source of such information to which defense and defense supporting contractors may be referred in order to obtain equipment to fulfill urgent production requirements to support military production.

C. *Production Equipment.*—Any equipment or machinery used in the production of goods or services for the purpose of cutting, abrading, grinding, shaping, forming, joining, measuring, testing, heating or treating of production materials or "in process" products within a manufacturing, processing, assembling, or service establishment. For the purposes of this directive, see supplement A.

D. *Machine Tools.*—That category of production equipment consisting of power-driven, nonportable machines are described under standard commodity classification codes 3411–00 through 3419–99 and 3441–00 through 3449–90.

E. *Departmental Industrial Equipment Reserve (DIER).*—The indlustrial machinery and equipment held in storage by the military departments for augmentation of their required industrial production capacity in time of a national emergency. Departmental industrial equipment reserve does not include industrial machinery and equipment retained as integral units of departmental establishments, departmental industrial plant reserve, contractors' plants, pilot lines, other active installations, on loan or lease, or in plants covered by the national security clause.

F. *Departmental Industrial Plant Reserve (DIPR)* consists of two categories:

1. *Active departmental industrial facilities.*—Those departmental controlled industrial facilities which are in active use for their intended purpose.

2. *Departmental reserve plants.*—Those departmental controlled industrial facilities consisting of Army, Navy, and Air Force reserve plants which are in use for purposes other than the intended purposes (with recapture rights), or held in idle, or partially idle, standby.

G. *National industrial equipment reserve (NIER).*—That industrial machinery and equipment held by the General Services Administration for storage and maintenance for augmentation of productive capacity, or for production capacity beyond the scope of the departmental industrial equipment reserve in time of a national emergency. The national industrial equipment reserve does not include industrial machinery and equipment retained as integral units in plants of the national industrial plant reserve.

H. *National industrial plant reserve (NIPR)* consists of production facilities held, or leased, or sold with recapture rights for defense production in accordance with the terms and provisions of Public Law 883, 80th Congress.

I. *Idle production equipment.*—That Department of Defense owned or controlled equipment, regardless of where located, which is not in current productive use and is not contemplated for use by the owning department or the control agency within 90 days, excluding (1) equipment installed or designated for currently scheduled production, but not yet in use pending completion of line, and (2) machine tools or other related production equipment for maintenance or overhaul of material in current use.

J. *Package plant equipment.*—A complement of Government-owned equipment, which is assigned to a specific program, and which, either as an entirety or when combined with other equipment, will be capable of producing at a specific level a military end item or component. This equipment may be in plants or in storage under the custody of one of the military departments or in the national industrial reserve plants.

K. *Standby line.*—A complete complement of installed tools maintained intact in reserve condition which, when activated, is capable of producing at a specific level of production. Future activation is planned as a unit.

L. *Active base package.*—That idle production equipment located in an active production facility when such equipment is specifically retained to (1) provide production acceleration capability in the event of emergency, or (2) be used following a changeover to a new or modified production item.

M. *Departmental stocks of production equipment.*—That equipment held in the departmental stocks for issue to the various activities of the services.

N. *Advance base tools.*—Those items of production equipment held in reserve for advance bases for use in time of national emergency.

O. *Defense supporting activities.*—Those companies and industrial organizations whose support of defense production can be identified although they may not hold direct military contracts.

V. Organization and functions of production equipment redistribution group

A. PERG shall be staffed by (1) a representative of the Assistant Secretary of Defense (Supply and Logistics) and such other personnel as may be required in supervisory administration of the unit, and to service the requirements of defense supporting activities, and (2) a representative from each of the three military departments, with such staff as may be required to support the functions of PERG attributable to the requirement of the department from which assigned.

B. The representative of the Assistant Secretary of Defense (Supply and Logistics) shall be the Chief of PERG with authority to resolve conflicts concerning administration. The Chief shall be responsible for promulgating internal operating policies and procedures.

C. PERG shall maintain the PERI on a current basis.

D. PERG shall be responsible for the allocation of items listed in PERI in accordance with policies set forth in section VI.

E. PERG shall be responsible for arranging the site inspection of allocated items.

VI. Reporting of idle production equipment

All idle Department of Defense owned or controlled production equipment, except that exempted herein, is to be reported to PERG in a manner described in the following paragraphs. A necessary condition of reporting is the furnishing of adequate descriptive data in such form as to allow for ease of review by potential users.

A. Classes of items to be reported are shown on the list attached (supplement A). Only items having an acquisition cost of $500 or more are to be reported.

B. Inventory data on items to be added to the PERI will be submitted to the PERG by the departments on DD form 761 which is prescribed for this purpose.

C. 1. Within 180 days from the date of this directive, the military departments will analyze each package plant (including active base packages) and standby line now being retained and determine, on the basis of criteria set forth in enclosure 3, the need for retention of the groups of items as entities for mobilization use. Each similar group of equipment items becoming idle in the future will be similarly analyzed at least 30 days in advance of the date of inactivation and determination made as to need for retention as entities. For each group of items determined as essential for retention, a report, in the format prescribed in format B of enclosure 2, will be submitted to the Assistant Secretary of Defense (Supply and Logistics). For those packages and lines now idle, reports will be transmitted not later than 180 days after the date of this instruction; for those subsequently becoming idle, reports will be forwarded within 30 days after date of inactivation.

2. The Assistant Secretary of Defense (Supply and Logistics) will indicate his concurrence in the continuation of the package or line by assigning a number for each package or line, and this number will be shown on each DD form 761 or other paper relating to that particular package plant, standby line, or active base package.

3. Those DD forms 761 in the PERI, currently bearing "package plant," "standby line" or "active-base package" designations, will be permitted to carry such designations during the 180 days allowed for reappraisal of such designations.

4. DD forms 761 covering machine tools in package plants, standby lines, or active base package, will be plainly marked "package plant" tools, "standby line" tools, or "active base package."

Each designated package plant (including active base packages) and standby line will be reviewed annually by the appropriate military department to determine whether it still meets the criteria under which originally designated. For each package or line meeting the criteria, certification will be submitted to the Assistant Secretary of Defense (Supply and Logistics) in the form prescribed in format B of enclosure 2. Packages and lines not meeting the criteria will be reported promptly to the Assistant Secretary of Defense (Supply and Logistics) in the form shown in format C of enclosure 2. DD forms 761 and all other records relating to the packages and lines will be corrected within 30 days after submission of report.

5. All DD forms 761 marked "package plant," "standby line," or "active base package" will also show the appropriate "M" (mobilization planning) number from the "preferential planning list," if applicable, as well as the name of the company or installation where mobilization use of the item is planned.

6. Funds will be requested through normal channels as necessary to procure equipment needed to maintain the production capability of specific package plants, standby lines, or active base packages if such capability would otherwise be reduced as a result of modification or other change in the military end item. When such equipment has been obtained, the PERG will be notified of the acquisition of the new equipment through the submission of new DD forms 761. The letter transmitting such new forms will include a reference to the original number assigned by the Assistant Secretary of Defense (Supply and Logistics), a list of the equipment (if any) to be deleted from the package or line, and a statement regarding the anticipated disposition thereof.

7. Funds may be requested through normal channels for the acquisition of machine tools and production equipment to create new package plants, standby lines, or active base packages as dictated by mobilization requirements. The Assistant Secretary of Defense (Supply and Logistics) will be forwarded a preliminary justification of such proposed plants or lines. Format A shown in enclosure 2 hereof will be used for this purpose.

D. Advance base tools will not be reported.

E. NIPR tools sold with the national-security clause will not be reported.

F. That equipment held in departmental supply stocks for issue to the various service organizations or activities of the services will not be reported.

G. Idle Department of Defense owned items in privately owned facilities will be reported as follows:

1. Each military department will issue instructions to those private companies, institutions, or other activities that when any item of such equipment is idle, as defined in paragraph IV, I, it must be reported as idle to the cognizant service, bureau or command.

2. Within 45 days after receipt of such report, idle equipment will be reported to PERG.

3. In issuing reporting instructions to private contractors, the Bureau of the Budget Approval No. 22–R095 shall be cited.

H. Military department owned machine tools will be promptly listed. Submissions will be made continuously as tools become idle.

I. After reporting an idle tool to PERG, no change of utilization status of that tool will be accomplished without prior clearance of PERG. Changes of location will be reported to PERG at the time of issuance of shipping instructions.

VII. Allocation of idle tools

A. Equipment listed in PERG will be allocated for use:

1. On military contracts or in military establishments when the equipment is requested by a military department for current production use.

2. Of defense supporting activities when the request is sponsored by the Assistant Secretary of Defense (Supply and Logistics). In general, allocations of separate items of machinery or equipment to defense supporting activities shall be made only when the appropriate following minimum conditions obtain:

(*a*) The proposed use must clearly serve the public interest or considerations of national defense, and, in addition, possess attributes of urgency sufficient to justify use of industrial reserve under emergency conditions.

(*b*) The applicant must submit a written request for the items desired. This application should include:

(1) A complete description of the items.

(2) Evidence of importance and urgency.

(3) A statement that the same type or equivalent items cannot be purchased or leased from a commercial source within the time required.

(4) In general, except where the items are required only for a temporary purpose, evidence that the applicant has placed an order for the purchase of the desired item from commercial sources.

B. Machine tools and other items of production equipment which go to make up the complete complement of equipment of a "package plant," "standby line," or "active base package" will be retained intact and will not be allocated to other use except to meet a serious production situation in connection with an essential military program of high urgency. Such use will be permitted only when suitable equipment is not available elsewhere within the inventories of the Department of Defense or from industry in time to meet production schedules. Furthermore, in every case involving allocation of a machine tool or other item from an approved package plant, standby line or active base package, the early replacement of such equipment is to be assured and accomplished. If the emergency exists in connection with production for the department owning the equipment the transfer must be approved by the Secretary of that department. If the transfer is requested by a department other than the owning one, the transfer may be made by agreement of the Secretaries involved, or, in the case of disagreement, by the Assistant Secretary of Defense (Supply and Logistics) whose approval also is required in the case of NIPR tools being held for production in a specified plant or production line. The owning service, if it intends to continue to maintain the package or line, will require, prior to release, replacement of the machine released by a new machine, or return of the released machine, by a specified date, and (2) agreement that the using department will bear the expense of removal from the package, transportation, preservation, and all other expenses incident to the transfer.

C. All transfers of equipment located in or a part of approved package plants, standby lines, or active base packages, will be accomplished by use of forms DD 770 or DD 770–1 as appropriate. The required number of copies of each of these forms will be specified by the Chief, PERG. A set of forms DD 770 in the number of copies specified will be made out for each item to be transferred. Where a group of items are to be transferred as a part of a single transaction, it will be satisfactory to have the authorizing department official cover all forms with a single transmittal document listing the forms inclosed by number or other identification as an alternative to signing numerous individual forms. The number of sets of DD 770–1 forms to be made out for a particular transfer of a tool (or tools) will be specified by the department making the transfer.

D. When it has been decided that a machine tool of a particular type and size is to be made available by a specified department, that department will be given maximum latitude to provide the tool in whatever way it prefers provided a satisfactory tool is furnished promptly.

E. Prospective users of equipment authorized to make onsite inspection, shall have a 30-day period, starting upon the date of notification of allocation thereof, for acceptance or rejection.

VIII. Acquisition, transfer, leasing, and/or reimbursement

A. *Policy.*—

1. The PERI is to be screened for suitable equipment, which, when found to be available in other than package plants, standby lines, or active base packages, will be utilized in lieu of new equipment procurement.

2. There will be a complete and final transfer to the requesting military department of equipment withdrawn from the national industrial equipment reserve.

3. Production equipment in national industrial reserve plants, which is not excess to the activation of that plant for its intended use, will be leased from and returned to the plant by General Services Administration.

4. Transfers between the military departments will be by agreement between the requesting department and the owning department or by direction of the Assistant Secretary of Defense (Supply and Logistics). Prior to making an allocation for such a transfer, the PERG representative of the owning department will determine the conditions of the transfer and will obtain acceptance of such terms from the requesting department representative in the PERG. The department that requests the transfer will normally bear all expenses incident to the transfer.

B. *Procedure for leasing idle production equipment by defense-supporting activities.*—When suitable idle production equipment is found to be available in

the department industrial equipment or plant reserves for use of defense supporting activities, it may be transferred to the national industrial equipment reserve in order that it may be leased by General Services Administration. If direct leasing is desired by the owning department, this should be expressed at the time of receipt of tentative allocation. Detailed actions are as follows:

1. PERG will tentatively allocate such items and advise the owning service, at which time that service will call for direct leasing when desired.

2. For items to be leased directly by a military department, separate notification will be made to that department by the PERG after acceptance of equipment. For accepted items to be leased directly by a military department, leasing will be accomplished under existing regulations.

3. For accepted items to be leased by the General Services Administration:

(*a*) PERG will request the owning military department to initiate action to transfer the item(s) to the NIER. A signed copy of such request will be forwarded to the General Services Administration, which agency will immediately issue shipping instructions to the owning department, and negotiate a lease with the prospective lessee. This request constitutes authority to initiate transfer action.

(*b*) Pursuant to shipping instructions received from General Services Administration, the owning military department will include the following statement in the shipping order transferring the item(s) to the NIER: "Shipment is initiated to make available for immediate use the item(s) described herein. Jurisdiction over the item(s) is hereby transferred to the GSA for NIER; custody and accountability of the item(s) to be assumed by GSA upon delivery thereof to the carrier for shipment."

4. Leases of military department held items by the General Services Administration pursuant to this directive shall include a clause which would require the return of items to the national industrial equipment reserve when one of the following conditions occurs:

(*a*) The items are no longer needed by the lessee for the purpose leased, or

(*b*) Replacement therefor is available to the lessee, or

(*c*) Upon notification that such tools are required for a military program.

C. *Procedure for military departments and their contractors when leasing agreements are to be used.*—If items requested by one contractor are found to be available, but held by two or more military departments, necessary agreement will be reached between these departments to accomplish economical leasing of the items. Generally, leasing of all items for use in a single facility should be by one military service. This criterion will govern from time of preliminary negotiations and thereafter.

IX. Report control symbol

Report control symbol DD–S&L(AR)99R1 has been assigned to the reporting requirements contained herein. Report control symbol DD–S&L(AR)99 is hereby canceled.

X. Compliance

Copies of instructions issued by the departments implementing this directive should be furnished to the Assistant Secretary of Defense (Supply and Logistics).

C. E. WILSON, *Secretary of Defense.*

Feb. 2, 56—4215.9
Supplement A-Incl. 1

Standard Commodity Classification Code	*Description*
3411 through 341999	Machine tools.
3441 through 34490	Secondary metal forming and cutting machines.
34510 through 34519	Electric arc welding machines.
34520 through 3452129 345220 through 34529	Electric resistance welding machines.
345330 through 345339	Gas (flame) cutting machines, excluding hand torches.
357211 through 357219	Metal heat treating furnaces, box type.
357221 through 3572249	Metal heat treating furnaces, bath type.
357231 through 357239	Metal heat treating furnaces, basket type.
357241 through 3572439	Metal heat treating furnaces, bell type.
357261 through 357269	Metal heat treating furnaces, pit type.
357271 through 357279	Metal heat treating furnaces, pot type.
3572841 through 3572849	Induction heating devices.
54160000	Transformers, power, uninstalled, 501 kilovolt-amperes and above, 50 and 60 cycle only.
5561 through 556159	Powered trucks, industrial.
5563 through 5563994	Tractors, industrial.
5564 through 556420162	Trailers for industrial tractors.
563908	Profilometers.
563914	Magnetic particle inspection machines.
5651 through 56519	Hardness testing machines.
5653 through 56539	Pressure testing machines.
5656 through 565699	Balancing machines.
56572 through 565729	Gear measuring and testing machines.
56573 through 565739	Hob, worm and cutter measuring machines.
565742	Surface finish measuring machines.

Feb. 2, 56–4215.9
Supplement B–Incl. 2

FORMAT A

PACKAGE PLANT, STANDBY LINE, OR ACTIVE BASE PACKAGE FACT SHEET

1. Sponsoring department _____.
2. Bureau, command, corps _____.
3. Military item to be produced _____.
4. Mobilization No. from DOD preferential planning list _____.
5. Name and location of facility where the equipment would be used upon mobilization _____.
6. Total number of items costing $500 or more in the line _____.
7. Are all of the items of production equipment required to produce the military item Government owned? _____.
8. If answer to 7 is "No," how many privately owned items are required? _____.
9. Has the contractor, if involved, agreed to retain the privately owned equipment which is required to be used in conjunction with the Government owned items? _____.
10. Is this package or line complete, including tooling, jigs, dies, fixtures, et cetera, in the numbers and amounts needed to produce the mobilization item? ____ Yes. ____ No.
11. What was the date of the last determination of need for the continued retention of the package or line? _____.

12. Additional information:

I certify that the (package plant) (standby line) or (active base package) described above meets all criteria contained in inclosure 3 to Department of Defense Directive 4215.9, February 2, 1956.

Date _____

ASSISTANT SECRETARY (ARMY), (NAVY), (AIR FORCE)
or designee

Feb. 2, 56–4215.9
Supplement B–Incl. 2

FORMAT B

CERTIFICATION—PACKAGE PLANT OR STANDBY LINE

I certify that the (package plane) (standby line), DOD No. _____, was reviewed as of _____, and that it still meets all criteria contained in Supplement C to DOO Directive No. 4215.9, dated February 2, 1956.

ASSISTANT SECRETARY (ARMY), (NAVY), (AIR FORCE)
or designee

Feb. 2, 56–4215.9
Supplement B-Incl. 2

FORMAT C

REPORT OF DISCONTINUANCE PACKAGE PLANT OR STANDBY LINE

(Package plant) (standby line) DOD No. _____ was reviewed as of _____ and determination made that it no longer meets the criteria contained in supplement C to Department of Defense Directive No. 4215.9, dated February 2, 1956. Action is being taken to correct existing records to show discontinuance of this (package) (line).

ASSISTANT SECRETARY (ARMY), (NAVY), (AIR FORCE)
or designee.

Feb. 2, 56–4215.9
Supplement C-Incl. 3

CRITERIA FOR PACKAGE PLANTS, STANDBY LINES, OR ACTIVE BASE PACKAGES

1. Package plants, standby lines, or active base packages are designations for complements of idle production equipment established and maintained for the purpose of producing specific military end items or components at production rates required by mobilization schedules. Each must be reserved for use of a specific contractor or Government plant.

2. In order to justify the establishment or the continued maintenance of package plants, standby lines, or active base packages, the following conditions must be met:

(*a*) They provide production capacity toward meeting, but not exceeding selected time phased critical mobilization needs of the sponsoring military departments developed through the use of, and in consonance with, the Joint Chiefs of Staff war plans.

(*b*) Determination has been made that adequate sources will not be available to produce the specific military items in question based on studies of time phased mobilization capacities of both military industrial facilities and private industry.

Mr. PIKE. The new revised policy requires the departmental secretaries to certify as to the need for maintaining groups of tools or complements of tools as package plants, standby lines or active-base packages. The designation of active-base packages is a new designation that has been created in this revised directive to indicate those tools that are stored in active production facilities which are held for use in the event of mobilization or to accelerate current production rates. This directive further requires that the secretary of the military department having jurisdiction over a package plant, standby line or

active base package to recertify annually as to the continued need for retention of this equipment. Such package plants, standby lines and active-base packages, once having been certified will be held intact and the equipment which is a part of the complement will be made available only for current use on high priority programs when equipment is not available elsewhere in the Department of Defense or from industry in time to meet the required production schedules. This directive further requires that when equipment is removed from a package plant, standby line or active-base package under these urgent conditions, it must be replaced by the return of the loaned equipment or new equipment within a specified time limit.

The new directive also provides that the military departments will budget for funds necessary to procure equipment needed to maintain the production capability of specific package plants, standby lines, or active-base packages if such capability would otherwise be reduced as a result of modification or other change in the military end item. This provision follows the recommendation of the Advisory Committee on Production Equipment that capacity should be kept in an up-to-date condition in order that it may be activated quickly should an emergency arise. In addition, the military departments are directed to budget for the acquisition of equipment to create new package plants, standby lines, or active-base packages for the production of new or changed military items as they are developed.

As to the other idle equipment which does not fall within the package line program which is presently being maintained for mobilization purposes, present policy allows for the utilization of such equipment for current defense production where needed. Inspection teams representing the Department of Defense, the machine-tool builders, and machine-tool dealers and users have visited our warehouses. The results of such inspections have greatly assisted us in our determinations as to what equipment in this category we should keep on hand for mobilization purposes.

We have had a program in operation for some time for the establishment of a complete Department of Defense machine-tool inventory. The inventory has actually proceeded amazingly well considering the magnitude of the job to be performed and the preciseness of which the information is to be provided. At the present time we have inventory records of more than 277,000 machine tools. We have run into a technical difficulty which is going to cause some delay in the completion of this inventory. We feel, however, that this difficulty was unavoidable and the delay caused will not be of great duration. Without getting into the precise mechanics of taking the inventory of machine tools, I would like to explain that we make use of coded data and at this point we have reached a level where we have coded most of the equipment owned by the Department of Defense, for which codes were available, and we are now awaiting the completion of a new directory of metalworking machinery in which the additional codes required for the completion of the inventory will be included. It is anticipated that the revised directory will be available by the middle of this calendar year.

You will recall that at the time of the issuance of the report of the Advisory Committee on Production Equipment we estimated that we had approximately 500,000 machine tools in the Department of Defense. This figure was our best estimate at the time and was made

prior to the program for obtaining a complete inventory. Now that we have had the program underway and a substantial number of items have been reported and estimates from the military departments as to the remaining quantity to be inventoried have been furnished, it is probable that the ultimate number of machine tools will be approximately 400,000. When you consider that we already have 277,000 covered, this is a pretty good percentage of the total to be reported.

We have derived from these data a considerable volume of information in regard to our current holdings. The procurement of machine tools during the Korean emergency plus those which have continued to be procured for current production programs has given our reserve stocks a shot in the arm and we believe that the machine tools owned by the Department of Defense are generally less aged and less obsolete than those presently held in the civilian economy.

With regard to leases of Department of Defense tools for nondefense use, I made a report to this committee in November of last year [10] which stated that actually 16 such leases had been made and these leases provided for utilization of 553 machine tools. Since that time a few additional leases have been entered into but most of these have been on the basis of allowing the contractor to acquire new machines to replace those owned by the Government.

The question of replacement of obsolete tools in our inventory is being given considerable attention. The Bureau of Ships, Department of the Navy, has made a study in this area which has been presented to all segments of the Department of Defense and which is now under consideration not only by the Department of Defense but other interested agencies. It is our feeling that the recent directive of the Secretary of Defense roegarding the maintenance of package lines will provide for replaceemnt to maintain these lines on a more efficient basis.

One of the recommendations of the Advisory Committee on Production Equipment was that the Department of Defense undertake a program to procure machine tools of a long lead-time nature for the mobilization reserve. The objective of this recommendation was twofold. One to assure that in the event of mobilization, tools which require a long lead time to manufacture would be available for immediate military production. Second, to assist the machine-tool industry in avoiding the feast and famine cycle which in the past has occurred in the industry.

I wish to assure the committee that our new policy calls for the purchase of long lead-time tools for the maintenance of existing package plants, standby lines, and active base packages, and for the establishment of new package plants, standby lines, and active base packages which will be required for future mobilization. Funds for such procurement will be obtained by the military departments through their normal appropriation requests.

Initially it was contemplated that the financing of the procurement of long lead-time tools for mobilization purposes would be through funds appropriated directly to the Secretary of Defense who would then allot the funds among the military departments in accordance

[10] See appendixes 5 and 5 (a), p. 146, correspondence between the chairman of the Senate Small Business Committee and Mr. Pike.

with the greatest need. For fiscal years 1955 and 1956, a combined total of $200 million was appropriated by the Congress.

This method of approach has proved impractical and consequently is being dropped in favor of the new approach of permitting the military departments to budget for their needs in this area. Under the old system funds were allocated for the procurement of tools to be held in reserve only for mobilization use. We found that our current facility expansions indicated that many of such tools were needed for current production use. Parallel procurement would mean buying duplicate items, one for current use and another to be held in reserve. This appeared uneconomical, particularly when the items involved tools of considerable expense.

We do not contemplate that this change in procedure will alter our procurement of this type of equipment. As a matter of fact, the Department of the Air Force is currently placing orders for the same type of tools which were contemplated for procurement under the former method and in approximately the same quantities.

It may be of interest to this committee that the Advisory Committee on Production Equipment in submitting its report in 1953 anticipated a decline in the production rate of the machine-tool industry and was of the opinion that the expenditure by the Government of up to $500 million would be needed to maintain a healthy industry. The assumption made by that committee did not prove to be a completely accurate forecast. The machine-tool industry received nearly a billion dollars in new orders in calendar year 1955. This represented the highest amount of new business for the industry for any peacetime year in its history.

Again, I appreciate the opportunity of discussing these matters with you. Any questions the committee may have I will be glad to answer. I have with me members of my staff who are prepared to furnish you with more detailed data.

Senator SPARKMAN (presiding). Thank you, Mr. Pike.

I am sorry I was not present to hear your whole statement. I returned as soon as I answered the rollcall.

I will ask Mr. Stults, the staff director, to ask questions.

Mr. STULTS. Mr. Secretary, in this field we are obviously sort of skirting information which is of a security nature. I know you will not hesitate to inform us when we are getting across that line.

But at the top of page 7, or the bottom of page 6, of your statement you point out that the old method was impractical because funds were allocated for procurement of tools to be held in reserve for mobilization use, and at the same time, presumably the contractor or the military department would buy a similar, identical tool, perhaps, for a reserve.

Now, in a period of peacetime, or semipeace, such as we are in now, is it not proper, perhaps, that we should have facilities ready for a war situation which are twice as big, maybe, as our facilities presently being utilized?

Mr. PIKE. I think in answer to your question, and getting to several other questions that have been asked around this same point, I might expand a little bit to explain first that the present wording of the legislation on the reserve tools and facilities, which has authorized this $100 million in fiscal year 1955 and another $100 million in 1956,

specifically provides that this money may be spent for the procurement of tools which must be held for mobilization reserve purposes. In other words, these would have been tools that go on the shelf.

Again getting back to one of the comments that Mr. Vance made earlier, as time has moved along, our strategic concepts and our war plans—and we do get close to classified areas there—have changed to the point where there is very definite agreement at high levels in the Department of Defense that more important under this new concept is our production in being at the time a war might start out, as opposed to fine, new machinery gathering dust on the shelves.

I think that that was one of several reasons—I believe it was the most important single reason—that went into the thinking and discussions in which Secretary of Defense Wilson participated, that caused us to change from the approach that had been set up and in behalf of which I testified last year. The approach now is one wherein our procurement will be directed toward newer machine tools that will go into plants in being, so that we can more economically and efficiently produce planes and other weapons, and in the event of a mobilization will give us the best, most modern kind of production plant, it being implicit in this newer type of thinking on strategic plans that the production capabilities and facilities in being are going to be the ones that will determine how well we do in the initial exchange.

Mr. STULTS. It comes to my mind that Mr. Vance's example was perhaps the B–47 and the B–52, the changeover. Under this new concept, would you stop production on a B–47 and knock down all the tools and rebuild a line, and during that period have nothing, or would you have or could you duplicate tools? Do you get my point there? As end-items change, you obviously do have duplication lines.

Mr. PIKE. That is right.

Mr. STULTS. You were phasing out on the B–47's while you were coming in on the B–52's. You did have two different lines for end-items. This is considered absolutely essential in the interest of national defense, I assume. It will continue, so that the duplicating nature of the reserve or of the inventory is not so bad as it might appear from your statement.

Mr. PIKE. I think that that is something that we always have to be on the alert for and aware of.

For instance, in an Air Force's procurement last year of approximately some $60 million to $64 million for tools—the planning behind this particular purchase was quite an important element in all of the discussions leading up to this overall change in the Department of Defense with relation to the reserve tool policy—it developed that the Air Force was able to find for an immediate increased production schedule need—this had to do with a vital, modern weapon in the inventory for which it had decided to increase the production rate. This is something we had to get to right now. The Air Force in checking their own inventory, and other package plants, et cetera—as I understand, these figures may be subject to correction—but approximately $12 million worth of machine tools were found there, and in the other departments, through our office, in checking our inventory of reserve tools, as well as the inventory of package plants, we were able to find a substantial dollar-volume of tools that were adaptable to

making this modern weapon on which it was desired to have the accelerated production. And then, carrying it a little further, Mr. Wilson's thought, as far as this specific $100 million fund, in which no money has been obligated this year and on which it has been brought out that approximately $15 million was obligated from the 1955 funds—this is something which we intend to present to the Appropriations Committee, and it is our plan to ask for change in the wording of legislation as it now reads, so that this $100 million may be used as a reserve contingency type of fund for use at the discretion of the Secretary of Defense for plant-production needs as opposed to the restrictive going-on-the-shelf, mobilization reserve language that is presently in the bill.

Mr. STULTS. Your counsel at the Defense Department feels that any money spent under that so-called Vance plan, the $100 million——

Mr. PIKE. Under the wording of the present legislation authorizing that amount.

Mr. STULTS (continuing). You could not use that for production unless you got in a war?

Mr. PIKE. No. The very wording of the law indicates that this money is to be expended for long lead-time machine tools that are to be put into reserve for use at the time of mobilization. There are several possible types of mobilization.

Mr. STULTS. Your lawyers felt that we are not in mobilization now? We are in an emergency.

Mr. PIKE. Let me ask my lawyer that question here.

Go ahead and answer it.

Mr. NASH. I am James P. Nash, Office of the General Counsel, Department of Defense.

We believe, Mr. Chairman, that this provision, this appropriation which was given to us by the Congress, was intended for the procurement of tooling, which would be set aside exclusively for mobilization use.

Mr. STULTS. So that you felt that, for example, a tool which was needed very seriously for current production now, you could not withdraw; you would have to keep it on the shelves? We are not in a mobilization, according to that concept?

Mr. NASH. No, sir. I do not think I would go so far as to say that, but the overall program that we had for the procurement of long lead-time tools was designed to get those tools which we would put on the shelf.

Mr. ODOM. And when would you use those tools? In time of war, is that your definition?

Mr. NASH. That was the intent.

Mr. ODOM. That is your interpretation of the act?

Mr. NASH. That is right.

Senator SPARKMAN. Well, it might be a little broader than that in time of mobilization.

Mr. NASH. That is right.

Mr. ODOM. And you conclude that we are not in mobilization at the present time?

Mr. NASH. That is right.

Mr. STULTS. Section 2 (c) (1) says, though, that we are in an emergency. You do all your procuring under an emergency status. I just wonder why you figure that you cannot use these tools but that

you can operate under a provision of law allowing you to negotiate all items of procurement in an emergency?

Mr. PIKE. I do not think that the two necessarily have any connection with what we are talking about.

Mr. STULTS. I think they probably do not, Mr. Secretary.

Mr. PIKE. We are speaking of pretty strict language in the Appropriations Act here again. I think I can say that as a result of discussion, the Secretary of Defense in his own mind has come to the conclusion that in the very rapidly advancing age of technology and improvements and the changes that we see possible now, and the types of weapons and weapon systems, that by and large, machine tools to produce more of the same kind of very large bombers, and so forth—maybe 5 years hence, those types of weapons systems may be obsolete, and there may be other weapons in the missile category and so forth, that we will be putting our efforts on. It is a little bit difficult to see with clarity.

Mr. STULTS. It certainly is. But when it takes you 2 years just to get a tool, to say nothing of getting an end item, you have to be a crystal-ball gazer, to a certain extent; is that not true?

Mr. PIKE. There is some of that element in the business, all right.

Mr. STULTS. I wonder if you feel that you could assure the committee that the military services under your direction, under Secretary Wilson's direction, would be more likely to commit funds for long lead-time tools under this new setup than under the old setup.

Mr. PIKE. Of course, I am not in a position to speak for the Secretary of Defense. However, I can say that it is my opinion and my considered judgment, based upon discussions that I have had with him and the Secretaries of the military departments, that this change in his policy is a good one, and is a step in the right direction.

Mr. Wilson is a man who is a very practical, down-to-earth sort of person. He does not enter into changes of policy lightly, without extensive thought and consideration. And I think that we can say that this is not a fait accompli. We still have to go before the Congress to present our story to the Appropriations Committee in order to get this language changed according to the new plan that I have described here.

Mr. ODOM. Mr. Pike, let me ask you this question. I think it was contemplated, when this appropriation, this $100 million was granted to the military department, that it would be used for an adequate tooling supply for mobilization, a reserve supply; is that correct?

Mr. PIKE. That is correct.

Mr. ODOM (continuing). And it would be shelf items. Now, that presupposes that these shelf items are necessary for a mobilization base, an adequate supply of tools for an adequate mobilization base; does it not?

Mr. PIKE. Yes. That was the supposition back a couple of years ago.

Mr. ODOM. Now, is it your judgment, or your opinion, that this $16 million expenditure out of the $100 million represents the necessary number of machine tools that are needed to maintain an adequate mobilization base?

Mr. PIKE. No, I do not think I can say that, because the $15 million or the $16 million to which you refer involved only the Army's and

the Navy's portion of fiscal year 1955 $100 million appropriation. As I have indicated here, the Air Force utilized current procurement funds, instead of the $84 million which was turned back, or will be turned back, to the Treasury. They procured some $60 million to $65 million worth of machine tools.

Mr. ODOM. For shelf? Now, I am not talking about current production items.

Mr. PIKE. No, not for shelf. That was for production.

Mr. ODOM. I am limiting this now to the tools that are necessary to be put on the shelf for reserve. Does that $16 million fairly represent the amount of expenditures which were necessary to maintain an adequate shelf reserve for machine tools during the fiscal period?

Mr. PIKE. I do not think that I am in a position to speak for the whole Department of Defense including the Air Force, too, that this particular expenditure covering two departments was or was not——

Mr. ODOM. But it did cover two departments and their whole requirements?

Mr. PIKE. That is right.

Mr. ODOM. Now, under this new policy, would there be any increased expenditure for shelf items over and above the expenditures that were made during this fiscal period; do you think?

Mr. PIKE. That will have to be developed, I think, in the course of the development of the service budgets and their review by the Office of the Secretary of Defense.

Mr. ODOM. The current philosophy, as I understand it, is that our mobilization base should primarily be concerned with a production in being, as compared with something that we might use in the case of a long, drawn-out national emergency.

Mr. PIKE. I do not think that you can say that we only have one type of mobilization plan. Obviously, nobody knows what kind of war we are going to get into. But certainly one of the possibilities is the very fast, early phase decision type of war. There certainly is a possibility that we might become engaged in other so-called peripheral types of warfare. So I do not think that there is any one single type of mobilization plan that anyone can land on and say, "This is it, and I will do no thinking or make no planning for any other kind of emergency."

I think that the whole thing has to be studied on a broad basis, and certainly elements of balance kept in mind. I do not think it is possible to give a specific yes or no answer to the question that you have put to me for that reason.

Mr. STULTS. On April 27, you did testify before the Senate Appropriations Committee that these things were really needed very strongly. And $250 million was what you had thought in terms of originally and it was a hard job to get it to $100 million.

Now, we find that by the end of December, only 7 or 8 months later, you have changed your policy and have not obligated any of the $100 million and, furthermore, you have changed your policy and now say that no more of this sort of thing is necessary.

Mr. PIKE. Of course, we learned a great deal. I would like just to point out, in the first place, that again a good 2½ to 3 years of time has gone by here, and when I first came in as Deputy to the then Assistant Secretary of Defense Charles Thomas, in the fall of 1953,

our office was attempting to make a start with the services to work out some kind of division of mobilization reserve for machine tools, for the dividing up of that fund. We continued that job and we worked with them and the first list we got back totaled $400 million. We went into each one of the programs, and the programs were changed and shifted during the course of this study.

I will say that I, myself, grew to have some doubt about the extreme difficulty in spending $100 million of the taxpayers' money in any one year for specific mobilization reserve type of package units for future production of some advanced type of aircraft or weapons system, and have any real certainty that this was really going to be the kind of tool for sure that we would need for this particular project that many years hence.

A great deal of staff work was done between our office and the Army, Navy, and Air Force.

This was all a part of an experience, I would say, that had a bearing on and was one of the factors in the judgment that was finally exercised in the changeover in the decision late last summer.

Mr. STULTS. That same sort of problem is also involved in an end item as well.

Mr. PIKE. That is right.

Mr. STULTS. I mean, an atomic sub or an atomic aircraft carrier is obviously 5 or 6 years off and by that time you may have a revolution in means of warfare and have wasted that money also, so that it is not only true of production equipment, I think.

Mr. PIKE. That is certainly correct; yes.

But I do think that we are doing a very important thing here, among other things, in trying to build up our capability in being with the most efficient, the most modern, and the best kind of machine tools we can. I really believe that from the standpoint of having a real mobilization base to spring from in the event of an all-out emergency that might be of a short duration, that this would be the best kind of machine-tool mobilization base that we could have, tied down and operating in plants on specific programs.

Mr. STULTS. You feel it is sufficient also for the other purpose of keeping the machine-tool industry modern, healthy, and prosperous?

Mr. PIKE. I think on that score, as I indicated just a week or so ago—I noticed in the Wall Street Journal, in the Wednesday, January 25, issue, an article on the machine-tool industry headlined "Machine Toolmakers New Orders Continue at Top Peacetime Level."

It reports that new orders for 1955 come close to $1 billion, and it reported that in December some $43 million in orders were placed by the Air Force. That was part of the $60 to $63 million procurement that I mentioned.

It would seem to me that in the healthy condition of the economy in the country that the machine-tool industry seems to be holding its own.

Mr. STULTS. Now, 52 weeks ago, the picture was not as good as far as the machine-tool industry. How about now and 52 weeks hence? Would you look with favor upon, instead of just current-production tools, building up reserves again in order to serve the dual purpose of keeping the industry healthy and keeping good, current, modern tools in your own reserve?

Mr. PIKE. I certainly think that none of us can stop our thinking about any of these problems. We are living in a very dynamic, developing situation, and just as we have made a change that appears to this committee naturally to be rather radical—I think that you are very properly looking into the matter—I think that 52 weeks from now we have a lot of factors affecting the whole security of the country that certainly would be involved in a consideration of the machine-tool industry in particular.

Mr. STULTS. One further question. Since these tools are to be purchased for current production, they go into the plant of a current producer. Do you feel that this has any impact of broadening your base as far as producers on military end items? If you give one man a line, is any competitor likely to be able to go in and compete with him?

Mr. PIKE. That is a very difficult question to answer in a categorical way. Certainly keeping a broad mobilization base hot and active is an extremely difficult thing when you are not in a shooting war and not using up ammunition or aircraft and so forth.

In the particular program that the Air Force Assistant Secretary would probably tell you about, again an acceleration of a program is involved. It involves getting a producer that has not been in the picture before, tooled up to get more units of this particular item producer to meet an indicated urgent military demand. And there, again, you have got matters of pretty compelling military urgency as opposed to overall basic factors that you would like to be giving full weight to at all times as far as your broad mobilization base is concerned. These are not simple problems.

Mr. STULTS. I recognize that.

Your statement on page 5 says that you have some 277,000 tools inventoried. You wrote to this committee in November of last year that only about 60,000 of them, however, were on any sort of complete listing; that is, the condition of the tool and what type of use had been made of it, the age, and that sort of thing.

We are talking about two different things, I assume, are we not?

Mr. PIKE. I wonder if I could have Mr. Williams, who is in our Machine Tool Office, respond to these questions, because he has charge of this program.

Mr. STULTS. Yes.

Mr. WILLIAMS. The 62,000 are the tools that were reported in the idle inventory. This inventory is separate from the 277,000 inventory which Mr. Pike has just referred to.

Mr. PIKE. The 277,000 is the total of all the services. That is tools that are in current production. The 66,000 that Mr. Williams referred to are the idle tools.

Mr. STULTS. I see. And now are all 277,000 of these tools covered with information as to make, model, electrical characteristics, age, condition, and location?

Mr. WILLIAMS. That is right. That is a requirement of our instruction that they be so identified.

Mr. STULTS. So they are all done. And you add the 62,000 to the 277,000, or not?

Mr. WILLIAMS. No, sir.

Mr. STULTS. It is 200,000 plus the idle 62,000, roughly?

Mr. WILLIAMS. The 62,000 which are in the idle inventory are also reported in the 277,000 inventory.

Mr. STULTS. Now, you say here:

We believe that the machine tools owned by the Department of Defense are generally less aged and less obsolete.

These are somewhat double negatives. Are they more modern and more efficient? Our studies in 1950 and the experiences in World War II were that our plant was not in quite as good shape as we thought it was. Our tools were awful, for example, in comparison with Germany's; I think that was the finding of the Vance committee, among others—does this mean that they are good or does it mean that they are less bad?

Mr. PIKE. I think that is a very difficult question to answer in detail. I would certainly say this, that during the Korean war and up to the present time, there has been from year to year new procurement of machine tools. Certainly those that have been procured over a period of the last 6 years are of modern, up-to-date types, and those that are being ordered today are certainly of the latest type.

Mr. STULTS. The bulk, however, are still World War II vintage, which are 15 years old now, or up to 15 years old?

Mr. PIKE. We would certainly have some old ones, just as industry does.

Mr. WILLIAMS. That is correct.

Senator SPARKMAN. Anything further?

Mr. ODOM. No.

Senator SPARKMAN. Thank you very much, Mr. Pike. We appreciate your presentation.

Mr. PIKE. Thank you.

(Following is subsequent correspondence between Senator Sparkman and Mr. Pike, bearing on this hearing:)

EXHIBIT 3

UNITED STATES SENATE,
SELECT COMMITTEE ON SMALL BUSINESS,
February 20, 1956.

Hon. THOMAS P. PIKE,
Assistant Secretary of Defense (Supply and Logistics),
Department of Defense, Washington 25, D. C.

DEAR MR. SECRETARY: I wish to thank you for appearing before the Subcommittee on Relations of Business with Government on February 7 to discuss important matters of government policy relating to the machine-tool industry. In reading your testimony, I note certain questions which should be answered to complete the record. I would appreciate your comments, therefore, on the following questions:

(1) In directing that each military department budget for its own tools, would you please describe what safeguards you are employing, or believe are advisable, to make certain that the high purposes of the joint ODM-DOD directive are achieved by each military department despite conflicting budgetary demands. What type of reports are you ordering? Are you requesting the military departments to break out their machine tool program into a single budget so that the Secretary of Defense and the Congress can determine its progress?

(2) Would you supply for the record total amounts of machine tools procured by each department (mobilization reserves, current use, etc.) for fiscal years 1954 and 1955 and the estimate for fiscal years 1956 and 1957.

(3) Would you explain more fully OSD policy permitting the use of equipment in packages on a loan basis "when such equipment is not available from industry or from inventory to meet urgent production schedules"? What stand-

ards have you devised to make certain that the borrowed equipment will be returned to its original package? Specifically, must the military departments show a budgetary ability to replace the borrowed equipment?

(4) I note from your testimony that you keep an open mind as to the necessity of government procurement to maintain a vigorous domestic machine tool industry. Can we infer from this that it is DOD policy to procure machine tools should the machine-tool industry fall below a minimum level of health at some future time?

(5) What are the plans of the Department of Defense to insure that the military departments will budget for their own tools, both mobilization reserves and replacements, at a realistic rate? Specifically, what is DOD thinking relative to depreciation funds as a means to assure the availability of money to maintain a healthy production equipment base?

I appreciate your concern with the serious problem of maintaining a modern government machine-tool inventory. If you wish to add to your testimony in any other regard, I would be glad to receive your views for the record. In order that the hearing record can be printed without delay, I would appreciate your reply within the week or at the earliest possible time.

Sincerely,

JOHN SPARKMAN, *Chairman.*

EXHIBIT 3 (a)

ASSISTANT SECRETARY OF DEFENSE,
SUPPLY AND LOGISTICS,
Washington 25, D. C., March 15, 1956.

Hon. JOHN SPARKMAN,
Chairman, Select Committee on Small Business,
United States Senate.

DEAR SENATOR SPARKMAN: This is in response to your letter of February 20, 1956, requesting certain information to supplement my testimony of February 7, 1956.

Our answers are numbered to correspond to your numbered questions.

(1) We believe safeguards already in effect, augmented by new reports now in process of development, will satisfactorily carry out the aims of our program. Examples of safeguards already in effect are: (*a*) Mandatory review of major facilities expansion projects, which includes machine tools; (*b*) review of departmental budgetary requests; (*c*) maintenance and review of central inventory records; and (*d*) field inspection trips, of which we will complete about 100 during the current fiscal year. The additional reporting requirements are designed to furnish us with the specific information as to both dollar value and quantities of machine tools the military departments request in their budgets for current and mobilization use. We do not contemplate that a breakout of the departmental machine-tool programs into a single budget will answer the purpose.

I would like to add that, should we find our program jeopardized at any point by lack of proper safeguards, we certainly will take appropriate corrective action.

(2) The specific information requested is not available. We could develop some overall dollar figures for each department; however, this would take us some time to obtain and would also cause a considerable workload on the military departments. It is to meet this problem that we are now instituting the reporting system outlined in paragraph (1) above.

Machine tools have generally been part of projects which also included facilities and other production equipment. An additional complication lies in the fact that contractors are also involved in the purchase of machine tools for the account of the Government, and the cost of the tools becomes very difficult to sort out and allocate to a particular fiscal year. These two major reasons, in addition to other administrative problems, make it very difficult and expensive to comply with your specific request.

Confirming agreements reached between our staff members, we will proceed to furnish you with our best estimates for each department for the years indicated. This information will be available in about 4 weeks.

(3) We believe adequate standards and safeguards have been provided in our February 2, 1956, directive. Loans of machine tools will be made only for high

priority, current production programs when the nonavailability of long-lead-time tools would delay production schedules. The responsibility of the borrowing department to return any tool is absolute and unqualified. As provided in the directive, the borrowing department must return either the same tool or a new tool to the lending department. The terms of the loan must be mutually satisfactory to both departments. Budgetary ability is not considered involved except to the extent the borrowing department can commit itself. We do not anticipate difficulties in this regard; however, as in (1) above, we will take appropriate corrective action should such prove necessary.

(4) The Department of Defense has consistently supported the recommendation of the Vance Committee which required the maintenance of a healthy machine-tool industry. As you have indicated, we maintain an open mind as to the necessity of Government procurement to maintain a vigorous domestic machine-tool industry. Actually we feel that our attitude is more than a matter of being open minded. Our analysis of industry reports at the present time indicate that industry is in a very healthy condition with an approximate 8-month backlog of orders. It appears from industry's own analysis that this condition is likely to continue for the foreseeable future. We do not feel that we could make specific comments as to actions which might be taken should the industry ever reach a state of requiring assistance since, as I am sure you can agree, any actions we would take would be dependent upon exact circumstance and only after cooperation with all other Federal agencies involved. We do feel, however, that our present programs will insure a more stable and continuing defense-buying program phased over a number of years. This should assist greatly in maintaining the industry in a healthy condition when combined with the normal civilian economy demands.

(5) The last question in your letter pertains to our plans to insure that the military departments budget for their machine-tool programs at a realistic rate. The answers furnished in reply to your first question partially cover this subject. There is one other aspect which has not been mentioned. We are in the process of drafting a Department of Defense directive which would require the military departments to institute and maintain programs for the replacement of their machine tools, in active use only, at a rate not less than 2 percent or greater than 5 percent of the total listed inventory value per year.

The Department of Defense intends to review all of the programs established by military agencies and to develop a uniform, Department of Defense-wide replacement program for machine tools. In the initial phases, this program will probably be limited solely to machine tools in active use with the eventual goal of attempting to develop a replacement program for standby lines, package plants, and active base packages at a later date.

I trust the above answers are adequate. Should anything further be desired, please feel free to call on me.

Sincerely yours,

T. P. PIKE.

Senator SPARKMAN. Mr. Bergstrom. Will you give your name and address to the reporter, and the capacity in which you appear here?

STATEMENT OF SWAN E. BERGSTROM, REPRESENTING THE NATIONAL MACHINE TOOL BUILDERS' ASSOCIATION; ACCOMPANIED BY TELL BERNA, EXECUTIVE VICE PRESIDENT; AND GRAHAM E. MARX, VICE PRESIDENT AND GENERAL MANAGER, THE G. A. GRAY CO., CINCINNATI, OHIO

Mr. BERGSTORM. My name is Swan F. Bergstrom, and I am a vice president and director of the Cincinnati Milling Machine Co., of Cincinnati, Ohio. My company manufactures a broad line of machine tools and related items. We specialize in milling machines, grinding machines, broaching machines, and a wide range of specialized machine tools.

I am also a past president of the National Machine Tool Builders' Association, and I am presently serving as chairman of the association's committee on permanent defense capacity.

During 1951 and 1952, I served here in Washington as the director of the Metalworking Equipment Division of the National Production Authority, and in this capacity I testified before this committee during its 1952 hearings on machine-tool shortages.

Today I am appearing principally on behalf of the National Machine Tool Builders' Association. As the committee knows, this is an industry association representing all but a small number of the country's machine-tool builders. The president of the association is Mr. Louis Polk [10a] of the Sheffield Corp. in Dayton, Ohio, and he has asked me to tell the committee how disappointed he is that it is impossible for him to be in Washington to appear before the committee today.

Mr. Tell Berna, executive vice president of the association, is here today with me. Mr. Berna has an unparalleled experience in the machine-tool industry. He will be glad to join with me in answering any questions the committee may have.

Also present from the industry is Mr. Graham E. Marx, vice president and general manager of the G. A. Gray Co., Cincinnati, Ohio, and a past director of the Metalworking Equipment Division of BDSA.

I should like to begin by saying that the machine-tool industry greatly appreciates this opportunity to appear before the Committee on Small Business. As you know, the machine-tool industry is a relatively small industry made up primarily of small-business concerns, and it has come to regard this committee as a very important forum in the Government for an exchange of views on industry-Government relations. The machine-tool industry's situation in relation to Government is complicated by the great number of Government agencies that have an interest in machine tools. It was this situation which prompted the industry to file, last July, with the National Security Council the paper on the Need for a National Policy for the Machine-Tool Industry in Peace and War,[11] with which this committee is familiar, and which we are incorporating by reference in this testimony. The industry is convinced that this committee performs a most useful function by investigating machine-tool problems and bringing them to the attention of the appropriate agencies of the executive branch.

As I understand the purpose of the present hearings, it is to inquire into the status of the various mobilization planning programs insofar as they relate to machine tools. The committee's announcement refers to the Korean machine-tool bottlenecks and states that:

> We want to be sure we are now better prepared to meet any emergency.

We in the industry want to be sure, too, and ever since the Korean truce we have been working with the Government toward that end. I should say right here that, as a result of more cooperative efforts, I think we are better prepared than before. There has been a lot of good work done in the Defense Department, the ODM, the BDSA, and other Government agencies. There is, nevertheless, much still to be done. I would like to review as briefly as possible some of the exist-

---

[10a] See appendix 12, p. 189, for joint statement of Mr. Polk and Mr. Henry R. Hanson, president, American Machine Tool Distributors' Association (March 13, 1956) on price escalation in machine-tool procurement.

[11] See appendix 7, p. 153, reprint of The Need for a National Policy for the Machine-Tool Industry in Peace and War.

ing programs and tell you fully and frankly about the areas of improvement and those where we still have great concern.

As you know, I shall be followed in this hearing by Mr. James C. Kelley, the general manager of the American Machine Tool Distributors' Association. Because of his past experience in the Navy and the Department of Commerce, Mr. Kelley is exceptionally well qualified to discuss the management of the mobilization base. He and I have compared notes so that between us we think we shall be able to provide you with reasonably full coverage of mobilization planning from the industry's point of view.

1. THE MACHINE-TOOL INDUSTRY

I think a few facts and figures about the machine-tool industry will serve to put the mobilization programs in perspective, and so I shall start out with the proposition that there is nothing more basic about the country's economy than machine tools. Everything that is made of metal is made either on machine tools themselves or on machinery that is made on machine tools. All metal weapons, from guns and ammunition to ships and planes, have to be made on machine tools.

In times of peace machine tools vitally affect the economy and the country's standard of living. Their precision, accuracy, and productivity determine the cost at which goods can be manufactured, and the cost in turn determines how many people can purchase and how high our standard of living will be.

The machine-tool field is very complex because more than 400 types of machines are built in this country and in use. There are usually many sizes and capacities of these 400 types, and on all of them there is a large range of attachments and tooling with which to adapt the machine to the particular job to be done.

Notwithstanding its basic importance and the complexity of its product, the machine-tool industry, as I have mentioned, is relatively small. There are about 325 companies in all, and during 1955, these companies employed only about 60,000 wage earners, less than the number employed at the single Ford plant, Dearborn, Mich. Only a few of these companies employed more than 500 people, and the typical machine-tool builder must be classified as a small-business concern under any standard.

Before World War II the importance of machine tools in the national defense was not fully understood. Thus, machine-tool production was allowed to shrink to only 34,000 units a year in 1938, the year of Munich.

Meanwhile, the German machine-tool industry was producing roughly five times as many machines. In consequence, Germany went through the war without a machine-tool shortage while in this country machine tools were a very serious bottleneck.

During World War II, the seriousness of the machine-tool situation was first appreciated by Mr. William S. Knudsen who left his position as head of General Motors Corp. to come to Washington in 1940. He made machine tools the first order of business and made this significant statement:

> Machine tools are the most essential item in the defense program.

As a result of the efforts of Mr. Knudsen and others in both Government and industry in World War II, the machine-tool industry did an incredible production job. From the 34,000 units produced in 1938, production rose to 307,000 units in 1942—a ninefold increase. Without this production effort, World War II might not have been a victory.

But as the committee well knows from its previous investigation, the result of this all-out production effort put the industry in a critical position in the postwar period.

When the war was finally won, the industry had manufactured more than a million machine tools. This was more than it had built in the previous 40 years. And this vast conglomeration of machines completely saturated the postwar machine-tool market. In consequence of "war surplus" sales and for other reasons, the market broke completely, and 36 machine-tool companies (out of a total of 350) went completely out of business. The entire capacity of these companies was lost to the national defense, and the remainder of the industry was seriously weakened.

Partly in consequence of the weakness of the machine-tool industry which resulted from saturated market conditions in the postwar period, machine-tool capacity was completely inadequate when Korea broke. The consequence was a very serious machine-tool shortage which this committee investigated very fully in 1952. The committee's very complete report entitled "Machine Tool Shortage" [12] contains the details and provides a landmark in the history of the industry. The report also contains a series of recommendations, and I shall now turn to a discussion of the progress that has been made in the areas covered by your report.

II. THE VANCE PLAN [13]

The committee's 1952 report closes with a reference to the appointment of the Advisory Committee on Production Equipment. The report expressed the hope that this group would—

> make its first order of business the consideration of this committee's recommendations looking toward the stabilization of the machine-tool industry.

This was the first order of business, and the new Advisory Committee evolved what has since become known as the Vance plan after Mr. Harold Vance, the Committee's Chairman.

As you know, the Vance plan was based on the concept that "production capacity should be substituted for the stockpiling of military end items." This is a direct quotation from the committee report. In other words, the plan assumed that capacity to produce jet aircraft would have been more valuable in 1951 than the stockpiles of World War II aircraft that actually existed.

Similarly, it was thought that capacity to produce the intercontinental bombers and guided missiles of tomorrow would be more important than stockpiles of Korean jet aircraft.

As I read recent Defense Department announcements, there is a growing tendency to depart from this principle. It has been suggested that in a fast-moving nuclear war, our main reliance must be on

[12] S. Rept. No. 1988, 82d Cong., 2d sess.
[13] See appendix 1, p. 115.

guided missiles and bombers in being rather than on productive capacity. I think we shall all have to defer to the judgment of our military planners and conclude that much weight must be given this new approach. But we cannot be unmindful that reports from the recent "summit conference" in Geneva suggest that nuclear wars are now less likely than wars with conventional weapons. As the committee will understand, all this lies in the area of the highest level military planning, and the machine-tool industry cannot presume to offer advice in this area.

It would appear, however, that a stockpile of guided missiles with which to fight a nuclear war is not inconsistent with a reserve of production capacity with which to fight a war—or what has been described as a Korean-type police action—with conventional weapons. As to this second type of engagement, it would seem that the basic concept of the Vance plan is still sound.

Now, what has happened to the Vance plan and what are its present prospects?

As you know, the Vance plan originally contemplated between $200 million and $500 million of annual expenditures for increased production capacity. Had this proposal been carried out, the Government would have bought between $200 million and $500 million of machine tools during each of fiscal 1954, 1955, and 1956, or a total of between $600 million and $1.5 billion. In addition, the Vance committee recommended the expenditure of $300 million a year for the maintenance of existing or prospective productive capacity or a total of $900 million for the 3 years. Total Vance plan spending was thus planned to amount to between $1.5 billion and $2.4 billion in the 3-year period ending with fiscal 1956 as compared with a total military budget for the 3 years of over $100 billion.

As we all know, nothing like these sums has been spent. A total of $200 million was appropriated for fiscal 1955 and 1956. According to the latest Defense Department announcements, all but about $15 million of the 1955 appropriation will be allowed to lapse, and the indications are that the 1956 $100 million appropriation likewise will never be spent.

Now, there may have been very good reasons for this failure to implement the Vance plan with which we are now entirely familiar. We are not here to be critical of either this or the preceding administration. We simply want to review the facts. We are convinced, however, that the subject of reserve machine-tool capacity is so vital in the interest of national security that any large discrepancy between such an important, generally accepted plan and its performance should be thoroughly surveyed and understood by all agenices of the Government.

As the machine-tool industry understands the situation there has in fact been a reappraisal of the Vance plan within the Department of Defense and the Office of Defense Mobilization. This investigation led to a joint ODM-DOD announcement on January 5, 1956.[14] The announcement indicates that for the present the emphasis will be on the purchase of machines that can be used on current production (though not entirely up to their capacity). The purchase of machines for stockpile purposes is to be deemphasized and perhaps discontinued.

---

[14] See appendix 2, p. 132.

The announcement also indicates that the military departments will budget on a regular annual basis with reserve capacity constantly in mind.

As the committee will understand, it is very difficult to comment on the January 5 announcement, or the directive that first became available today,[15] without having participated in the deliberations which preceded it. Moreover, the announcement must also be based upon war plans and military requirements with which private persons cannot be familiar. The industry has nevertheless given considerable thought to the announcement, and it has the following observations:

First. The industry agrees wholeheartedly that a machine tool in use is better than a machine tool in mothballs. It therefore supports the basic concept of the announcement with regard to the current installation and use of machine tools limited to defense purposes, purchased essentially for reserve purposes.

Second. The industry hopes that the announcement does not mean a complete abandonment of the practice of purchasing long lead-time and other critical machines for an emergency stockpile. There is an enormous gap between the number of machine tools we need for peacetime production and what we will need in an emergency.

Third. We must not forget when we consider the number of machine tools we need in an emergency what we must have to replace machine tools lost in the possible bombing of industrial areas.

Fourth. The regular annual budgeting contemplated by the announcement has the utmost significance, and I should like to suggest to this committee that it could peform a most useful function by following this process very closely. The experience with the Vance plan and the appropriations thereunder suggest that no reserve capacity program is any better than the departmental budgeting and procurement procedures behind it. The industry is under the impression that lack of coordination between department budgeting on the one hand, and industrial planning and procurement on the other, led to the failure of the Vance plan.

Finally and in connection with the Vance plan, I should like to say a word about the present capacity and prospects of the machine-tool industry. It will be recalled that one purpose of the Vance plan was to maintain the health of the machine-tool industry, and that the Vance committee estimated an annual production of a minimum of $800 million as necessary to keep the industry at the necessary strength.

Preliminary reports indicate that during 1955, the industry fell to a production level of $670 million—$130 million below the minimum set by the Vance committee. And 1955, you must remember, was a year in which the overall economy reached a new peacetime high.

As the committee may know, the industry held a large machine-tool show in Chicago during September, and, partly in consequence of this show, new orders during the last part of 1955 improved considerably. In consequence, the prospect is for a somewhat better year in 1956, but I hasten to add that there are segments of the industry for which this probably will not be so. This is because the large new

[15] Department of Defense Directive No. 42159. See Exhibit 2, p. 23.

orders which create the sharp upturn on the financial graphs came largely from the automotive industry and to a lesser extent from the aircraft industry. In very large part, they called for a highly specialized production machinery, and the manufacturers of the more common type of general-purpose tools have not had this influx of new orders.

Moreover, the automotive industry has completed a large part of its tooling for most prospective models, and it, therefore, seems very likely that the manufacturers of special automotive machinery cannot hope for a continuation of the flow of orders received in 1955.

Optimistic reports in the press and trade journals, on sales and new orders in the industry, must be considered in the light of two important factors. First, they must be related to the expanded capacity of the industry and its need for a larger volume of business in terms of its increased investment in plants and machinery and equipment.

Second, comparisons with sales volume in prior years are misleading not only because not properly related to capacity, but also because of the substantial difference in the value of the sales dollar and in the size and complexity of the machine tools themselves.

I mention the present state of the industry because the strength of the industry was, after all, one of the principal matters discussed by this committee in its 1952 report on machine-tool shortages.

In addition, it was one of the principal concerns of the Vance committee. But in recent Government announcements no mention is made of this phase, and this suggests that because of the publicity attending the machine-tool show, the recent congressional hearings on automation, and the upturn in the statistics on new orders, there may be a general impression in the Government that the industry has no problems. Admittedly, matters are better than they were after World War II, and I want to emphasize that the industry is not here today to foster any program of "make work" or subsidy. It is, we believe, however, unrealistic optimism and dangerous in terms of the national security to think that the machine-tool industry will magically emerge upon a plateau of sustained prosperity. The plain fact is that many companies are not operating near capacity.

III. THE ELEPHANT MACHINE PROGRAM

Unless the committee has some questions, I should now like to leave the Vance plan and discuss the so-called elephant program.

Senator SPARKMAN. Very well.

Mr. BERGSTROM. This program was initiated by ODM as an offshoot of the original Vance plan. In recent months, however, there has been some indication that this program has bogged down.

First let me describe what we mean by an "elephant machine." We have in mind very large, general-purpose machines. They include very large lathes, boring mills, planers, gear hobbers, and similar machines. Some elephant tools weigh more than 400 tons. Some require as many as 10 railroad cars for shipment.

Today, the trend in metalworking has been in the direction of larger and larger machine tools and work pieces. In the atomic energy program as an example, there has been an increasing demand for larger and larger equipment. In aircraft design, the heavy press

program has furnished a dramatic example of the need for large equipment, and right behind the heavy presses we find the large, heavy, hard-to-build elephant machines.

By virtue of their very size, many components of elephant machines have to be built on elephant machines, and any shortages are therefore likely to be compounded. For example, there are only two sources for the table drive gears for the large vertical boring and turning machines. These large machine tools are key machines in the atomic energy program and also in the manufacture of large-size aircraft components, tanks, and gun mounts. Thus, some of our most critical mobilization programs now depend entirely upon these two limited sources.

As I have mentioned, the ODM has understood the potential dangers of an elephant-tool shortage, and it has been considering an elephant-tool reserve program. We are under the impression, from discussions in Washington, however, that this program has been or may be sidetracked. From what we know of the situation, this unfortunate development is in part the consequence of a misinterpretation of the results of the survey which was undertaken to determine the need for an elephant-tool reserve.

As we understand the survey, it was based on the assumption that an elephant machine might be expected to work 5,000 hours a year in an emergency. The survey revealed that in 1952, at the height of Korean production, about half of the existing elephant machines worked less than 5,000 hours. From this the ODM has apparently concluded that there was sufficient elephant-tool capacity. But anyone familiar with machine-tool operations knows that this is not the case. Actually, the fact that half of the existing machines worked 5,000 hours shows very plainly that there was a shortage of capacity.

Our basic difficulty with the ODM conclusions from the survey is that 5,000 hours a year is a very high figure for elephant-machine operation in a guns-and-butter economy. It was selected as roughly the equivalent of two 10-hour operating shifts, plus an oiling shift 5 days a week. Ordinary production tools might be expected to work 5,000 hours a year in a guns-and-butter operation of the Korean type, but because of their special characteristics, the operating capacity of elephant machines is necessarily less than that of other machine tools. Thus, in view of the size and complexity of the work pieces, setup time on elephant machines usually amounts to at least 40 percent. Moreover, elephant machines necessary do fairly infrequent jobs on very large work pieces which cannot flow past the machine on a production basis. Furthermore, when time on elephant machines is in short supply, the great size of the work pieces makes it impossible to move them to another plant, and in consequence there is very little opportunity to equalize the workload between machines by interchange between plants or by subcontracting. Under these circumstances, it is surprising that more than a few elephant machines worked 5,000 hours in 1952, and the fact that half of them worked 5,000 hours indicates to the industry that there was not enough elephant capacity. And this, it must be remembered, was based upon the limited Korean action, not a full-scale mobilization requirement.

I should like to suggest that the committee request a reexamination of the elephant-tool reserve program with particular attention to the

question whether there was sufficient capacity during Korea and whether there will be sufficient capacity in a future mobilization. From all the information available to the industry and from the industry's interpretation of the survey which was made, it is plain that there was not enough capacity. Moreover, many elephant machines now installed in American industry are completely obsolete in design, productivity, and in accuracy. Although some elephant machines have been built since 1952, the situation remains most unsatisfactory and even precarious in terms of the national security.

When I testified before this committee in 1952, I stressed the fact that a list of military requirements was an absolute necessity in the preparation of any machine-tool program, and this proposition is still sound. The elephant machines, however, pose a slightly different problem because of their position in the production process, and I do not think the desirability of an elephant-reserve program should be made to turn on a list of military end-item requirements. Unfortunately, it is also our understanding that the program is being held up because no such list is available.

Elephant tools are synonymous with the unusually long lead time required for their design and manufacture. There are, in addition, other particularly critical types of machine tools that have proven to be in extreme short supply when periods of emergency arise. It is therefore essential to assure a proper volume of these tools as well as to maintain sufficient capacity for their manufacture if mobilization requirements are to be met. A recent comprehensive survey has been made in this area and it is urged that the conclusions that have been drawn be carefully studied by those responsible for mobilization readiness.

IV. TURBINE AND TURBINE-GEAR PROGRAM

Another offshoot of the Vance plan is the so-called turbine and turbine-gear program. This program evolved out of exhaustive studies which were undertaken at the Government's request by manufacturers of turbines and related equipment. As I believe the committee knows, the purpose of this program is to provide a reserve of the very large and specialized machines which are required for the manufacture of the propulsion units of modern naval vessels. The program involves about $70 million.

Until very recently, we had been under the impression that this program was proceeding smoothly and that contracts were about to be let. Recent information suggests, however, that this program has also slowed down. The industry understands that the Bureau of the Budget has raised some question about the availability of funds.

The industry feels that the turbine and turbine-gear program is a very important part of our mobilization program, and that it should now be pressed through to a conclusion. All surveys that have been made indicate that there is a lack of important capacity in this area.

V. THE BUY AMERICAN ACT

The next subject I should like to bring to your attention is the serious problem involved in the continuing purchase of foreign machine tools by the armed services. During the last year, the Air Force placed two

large orders for foreign-built machine tools. This business might have very well gone to small United States machine-tool companies—and should have, in the interest of strengthening our defense base. The committee will want to consider, as we do in the industry, both the small-business and the mobilization-planning aspects of these transactions.

In the opinion of the machine-tool industry, the purchase of foreign machine tools is inconsistent with the many other things the Government is doing to build up the country's capacity for defense production. Most foreign machines are inferior to United States machines. They are, generally, less powerful and less accurate. They do not have as much productive capacity. Many of them are built to the metric system. They are more difficult for the average American workman to operate and still more diffcult to maintain. Foreign machines simply cannot do the job like American machines, and whenever a foreign machine is substituted for an American machine, the country's productive capacity is lessened.

In time of emergency, the problem of obtaining repair parts for fireign machines may be diffcult or impossible of solution. Some foreign machine-tool companies are only a few minutes or hours from the Russian border by plane or tank, and they obviously cannot be relied upon as a basic source of supply.

In this connection, I should like to refer the committee to a quotation from the testimony of Mr. Harold Boyer from the Defense Production Administration which was printed in the committee's 1952 report on machine Tool Shortages. Mr. Boyer said (p. 43):

> Machine tools are just as much a material of war as an airplane engine, in fact more important because without them you can't make the engine.

We cannot rely on European sources for airplane engines, and we cannot rely upon them for machine tools.

I shall review the circumstances which led up to the Air Force decision to purchase foreign machine tools. The Buy American Act, as you know, calls for the purchase of articles of United States manufacture, but it gives the executive branch considerable latitude in determining when the public interest permits the purchase of foreign supplies. Until last year, foreign machine tools could not be bought as a general proposition unless there was a 25 percent price differential in favor of the foreign machine. Then last year, this differential was changed to 6 percent by Executive Order 10582.

Potentially, at least, the appearance of the new 6 percent differential could mean that the armed services might now buy foreign machine tools almost exclusively. This is because United States companies cannot possibly compete with foreign companies on the basis of so small a differential. In particular, foreign wage scales are very much less than in the United States, and since many machine tools are virtually hand built, labor rates and costs are a much more important factor than in most industries. In consequence, primarily because of these low wage scales, foreign machines have recently been sold in this country at prices far lower than the most nearly comparable United States machines. Although these machines are generally inferior to United States machines, they would have to be bought in preference to United States machines if the 6 percent differential is determinative.

Fortunately, the various rules and regulations relating to the 6 percent differential provide that it does not apply in cases where the purchase of foreign articles would have an adverse effect on the mobilization base. The real question in machine-tool procurement must be whether the purchase of foreign machines weakens the mobilization base. This is the real test in terms of national defense. Prices which result from higher wages must necessarily be secondary. It has been a proven fact that American-built machine tools are more productive than foreign tools of like type. It seems to us that, both for reasons of security and economy, procurement of machine tools should be held to those made in the continental United States. It is here that the Air Force has recently made what seems to us a most unwise decision. Last summer it purchased a large number of English radial drills and Italian shapers on the basis of a finding that the mobilization base would not be affected. But from what the industry knows of the machines in question, they are inferior to the United States machines that might have been purchased, and the productive capabilities of the Air Force have thus been lessened.

VI. POOL ORDERS—TRIGGER ORDERS

I should now like to refer the committee to portions of the testimony I gave in 1952 when the committee was investigating the Korean shortages.[15a] In the course of that testimony, I went into what seemed to me to be the causes of the shortages, and I explained what might have been and what was being done. One phase I emphasized was the so-called pool-order program, and I should like to tell you what we are now doing about pool orders.

As the committee knows, a pool order is basically a firm Government contract for the purchase of machine tools with a proviso directing the diversion of the machines covered by the order to defense contractors if rated orders are received from such contractors before completion. It is the hope and expectation upon the issuance of a pool order that the machines in question will be diverted to defense contractors and that the Government will never be called upon to take delivery. During both World War II and Korea, this expectation proved to be the fact in all but a very few instances.

As I explained to the committee in 1952, the Korean pool-order program took much too long to get underway. Actually, it was not until February 28, 1951, 8 months after South Korea was invaded, that a pool-order program was inaugurated. Unfortunately, this hastily conceived program soon bogged down, and it was not until August of 1951, more than a year after Korea, that any real results were achieved.

Since Korea, the industry has been working closely with the Government to set up a pool-order program which would begin automatically with the start of any new emergency. We call it a "trigger program" since each contract would be "triggered" at the start of an emergency by the mere happening of some stated event. At present, I am acting as chairman of a subcommittee of an industry

---

[15a] Machine-Tool Shortages—hearings before a subcommittee of the Senate Select Committee on Small Business, 82d Cong., 2d sess. (1952).

advisory committee which is working on the "trigger program," and I am glad to report that substantial progress has been made.

At the moment, we have reached virtual agreement on an overall form for a "trigger contract," and the final touches are being put on it by the lawyers in the General Services Administration. Meanwhile, a considerable amount of work has already been done in the preparation of lists of machines that would be covered by the trigger orders. It therefore seems very likely that the program will be all set up and ready to go within a few months.

I am sure that this committee will be interested in following the development of the trigger program, and I should therefore like to call your attention to two matters which I think should be kept under fairly constant surveillance. The first of these is the necessity for periodic revision of the list of machines that are covered by the trigger orders. During the postwar period a somewhat comparable program for "phantom orders" was prepared by the National Security Resources Board, but it could not be used during Korea in great part because the lists of machines were not kept up to date.

The financial details of the trigger program will also bear watching. During both World War II and Korea, financial details proved something of a stumbling block mainly because of the difficulty of estimating in advance the amount of the Government's contingent liability on the pool orders.

In the initial stages of the trigger program, some question was raised about the underlying appropriations, but we understand that it is now planned to finance the program pursuant to the borrowing authority contained in section 304 (b) of the Defense Production Act. This, however, is temporary legislation, and in any event there are likely to be other calls upon the borrowing authority in the event of any new emergency. It may, therefore, be advisable to obtain special legislation in order to finance the trigger program. It is hoped that this committee will support such legislation if it is required because of the vital importance of the trigger program in mobilization planning.

VII. PRIORITIES AND PRICES

As I also mentioned to this committee in my 1952 testimony, another factor which contributed greatly to the Korean shortages was the failure to establish an adequate priority system until the shortages had actually developed. I also pointed out that the crisis was greatly intensified by the failure of the Office of Price Stabilization to establish realistic price controls until after the shortages had developed.

Unfortunately, I must report to the committee that if there were to be a new emergency tomorrow, there would very likely be the same confusion over prices and priorities that contributed to the Korean bottleneck. In the industry's opinion, we need and need badly systems of standby priority and price controls which could be triggered into effect at the beginning of a new emergency. The trigger program will not succeed unless the contractors have the priorities that would be required to obtain the necessary materials. Defense orders for machines covered by the trigger program cannot be taken in the absence of an equitable system of price controls.

VIII. MANPOWER

I also mentioned draft deferments in my 1952 testimony.

As I am sure you understand, machine tools are designed and built by highly trained engineers and mechanics, and the capacity of any given company is directly geared to the availability of this highly skilled personnel. The uncontrolled drafting of machine-tool engineers and mechanics at the beginning of an emergency would slow down the production so vitally needed.

Of course, we all realize that no industry is completely draft proof, and as regards selective service, we are concerned only with the deferment of keymen during the critical early periods of a machine-tool buildup. During such a period, we believe that the draft of key engineers and mechanics should be postponed until potential shortages have been averted. At the present time, the mobilization plans for the machine-tool industry do not contain provisions for this kind of deferment.

IX. RENEGOTIATION

Finally, we want to comment briefly on the Renegotiation Act as it affects the industry's operations and defense potential.

We are glad to find ourselves generally in accord with the criticism of renegotiation included in the sixth annual report of your committee on the Renegotiation Act (sec. C, p. 62) [16] We are also in accord with the critical views on renegotiation expressed by industry participants in the Hoover Commission survey of government contracting.

We are convinced that the renegotiation law is impossible of fair and equitable administration no matter how conscientiously renegotiation officials may try. It is simply a judgment operation of a five-man board who have been given almost unlimited authority of profit control. They have, in effect, the power to levy a tax without a rate. They are not even held to any measurable objective standards. There is considerable evidence, as pointed out in the Hoover Commission report, that as between efficient, low-cost, low-price producers and less efficient, high-cost, high-price producers, renegotiation tends to strike at the former, who show higher profits, and exacts no refunds from the latter, who show low profits.

One of the worst features of renegotiation is its delay. Many machine-tool builders in 1956, faced with the necessity of spending millions of dollars for engineering and development, do not yet know what profits they will be left with in 1952 and subsequent years. There is no doubt that renegotiation drives the more efficient producer away from Government procurement to the commercial market in peacetime. There is a growing recognition that the continuation of renegotiation in a peacetime economy is adverse to the best interests of our national economy for both war and peace.

We have submitted a statement of our position on renegotiation to the Joint Committee on Internal Revenue Taxation, which, as you know, is reviewing renegotiation legislation and the procedures of the Renegotiation Board.

The Renegotiation Act of 1951, as amended, finally recognized the unusual problems involved in fairly renegotiating the sales of durable

---

[16] S. Rept. 1368, 84th Cong., 2d sess.

productive equipment like machine tools which last for years, as compared with sales of so-called expendable items which are used up currently. But, nevertheless, even with this improvement in the statute, substantial repayments have been required of the more efficient low-cost producers which were vitally needed for the engineering and development of improved machine tools for both the defense and peacetime economy. The engineering and development which had to be deferred during the Korean emergency because of all-out production of machine tools has been delayed in the post-Korean period because of refunds required under the renegotiation procedure.

As we have pointed out to this committee before, the weakness of the machine-tool industry in the post-World War II period was partly the consequence of the Renegotiation Board's action in requiring large refunds from machine-tool companies without taking into consideration the nature of their production, and particularly the long life of machine tools which, when produced in tremendous quantities, inevitably saturate the industry's future market.

The Renegotiation Act of 1951 gave some recognition to this problem by partially exempting for the years 1951 and 1952 sales of machine tools under subcontracts. In 1954, the Congress gave further recognition to the unusual situation of durable productive equipment by extending the partial exemption to prime contract sales. These provisions in the Renegotiation Act have enabled the Board to renegotiate machine-tool companies somewhat more equitably than was possible under World War II renegotiation legislation.

If it is the decision of Congress that renegotiation is to continue on some limited basis, or if it is again adopted at some future time in an emergency or during a war, the exemption for durable productive equipment following the pattern of the Renegotiation Act of 1951, as amended, must be continued.

CONCLUSION

While I have spoken exclusively of machine tools, you will understand that there are other extremely important elements in the metalworking industry that you may wish to give careful consideration. A machine tool does not stand alone. Such items as electric cranes and hoists, portable electric tools and, above all, gages and gaging equipment, cutting tools, and other related metalworking equipment, are also essential in time of war and should be given very careful consideration in time of peace.

In my statement, I have tried to cover eight major phases of the mobilization program which are of particular importance to the machine-tool industry in its continuing efforts to make its contributions to the national security. Mr. James C. Kelley of the Distributors' Association will follow with a discussion of several other phases, and he will give particular attention to the problems involved in the modernization and replacement of Government-owned machine tools.

Senator SPARKMAN. Thank you very much, Mr. Bergstrom.

If it is satisfactory to both Secretary Higgins and Mr. Bergstrom, we will recess the committee until 2 o'clock.

(Mr. Bergstrom's testimony resumed, p. 63.)

(Whereupon, at 12:45 p. m., the subcommittee recessed, to reconvene at 2 p. m., the same day.)

AFTERNOON SESSION

Senator SPARKMAN. Let the committee come to order.

I am sorry that Senator Thye, who is chairman of this subcommittee, cannot be here this afternoon because he was assigned a new job and was put on the Case matter, and that committee is meeting now.

I have free time until about 3 o'clock when I must go to another committee myself.

We are very glad to have Secretary Higgins with us. He was scheduled for tomorrow, but he couldn't be here tomorrow so he came today. We appreciate your patience in waiting over and being with us this afternoon, Mr. Secretary.

STATEMENT OF F. H. HIGGINS, ASSISTANT SECRETARY OF THE ARMY (LOGISTICS); ACCOMPANIED BY MILBURNE WEBB, DIRECTOR OF INDUSTRIAL MOBILIZATION, OFFICE OF ASSISTANT SECRETARY OF THE ARMY (LOGISTICS); GEN. HENRY R. WESTPHALINGER, DIRECTOR OF PROCUREMENT, OFFICE OF THE DEPUTY CHIEF OF STAFF FOR LOGISTICS; AND K. E. JOY, MACHINE-TOOL SPECIALIST, OFFICE OF THE CHIEF OF ORDNANCE

Mr. HIGGINS. Mr. Chairman, I am very grateful to you for this special consideration, and I am grateful to Mr. Bergstrom and his Machine Tool Association for yielding at this point. I am attempting to appear before another committee here today, and I appreciate it very much.

Senator SPARKMAN. Mr. Secretary, will you identify the gentlemen who are with you?

Mr. HIGGINS. Yes, sir.

I have with me Mr. Milburne Webb, who is Director of Industrial Mobilization in my office; Gen. Henry R. Westphalinger, who is Director of Procurement in the Office of the Deputy Chief of Staff for Logistics; and Mr. K. E. Joy, who is our machine-tool specialist in the Office of the Chief of Ordnance. They (Ordnance) represent pretty much our machine-tool setup in the Army.

Mr. Chairman, I am Frank H. Higgins, Assistant Secretary of the Army for Logistics. I have a short prepared statement I wish to make.

I am pleased to appear before this committee to discuss Army programs and policies relating to the establishment and maintenance of an equipment reserve adequate to meet mobilization requirements.

Information concerning the equipment reserve of the Army, and plans for its maintenance and utilization, were stated in considerable detail in a letter which I sent to the chairman of this committee on December 27, 1955.[17] I have additional copies of that letter with me if they are desired by members of the committee now present.

Since this committee has indicated that it is interested only in machine tools and metal-forming equipment, the inventory statement

[17] See appendixes 6 and 6 (a), p. 149.

has been revised to include only those items. The information shown is as of January 16, 1956, and reads as follows:

Status	*Number of items*
In use:	
For defense production	39,817
Leased	332
Total in use	40,149
Idle:	
In standby lines	50,539
In production packages	7,267
In general reserve	4,883
Total idle	62,689
Total inventory	102,838

Senator SPARKMAN. Mr. Secretary, is that included in the figure of 277.000 given by——

Mr. WEBB. That is only partially included because the 277,000 represents what was reported as of last August, and we have not made a report on the inventory since last August. I think our report then was on the order of 90,000. So, this 102,838 is larger than the number included in the figure that was read by Mr. Pike this morning. It will be included in the next report.

Senator SPARKMAN. Thank you.

Mr. HIGGINS. In addition to the equipment which is included in the current Army inventory, it is estimated that there are an additional 15,000 to 17,000 items, mostly in use, which are now in the process of being inventoried. The total Army inventory therefore is estimated to be about 118,000 to 120,000 items.

The only changes in Army policy from that stated in my letter of December 27 will be those necessary for compliance with the new Department of Defense policy which has just been published in DOD Directive 4215.9.

(Directive is reproduced on p. 23.)

Mr. HIGGINS. The principal change will affect procedures related to the acquisition of new items for the equipment reserve. The Army now will be responsible for including in its budget funds for the acquisition of items required for the establishment of new production packages and standby lines, modernization of such packages and lines as are already established, and for any long lead-time individual items considered essential to the mobilization base. Another important phase of the policy is the requirement for replacement of equipment taken from production packages and standby lines to meet urgent current production needs.

Although it is too early to offer an intelligent opinion as to the effect of the new policy on Army operations, I feel certain that it provides a basis for improvement over present procedures.

The extent to which the Army acquires new equipment prior to another period of mobilization will be governed by a number of considerations.

We normally do not consider it practicable nor economically feasible to replace reserve equipment simply because more modern and efficient items have been developed. Equipment no longer capable of

producing at scheduled rates will, of course, be replaced as soon as possible under conditions current at the time. This area is discussed in detail in my letter of December 27.

Senator SPARKMAN. Mr. Secretary, if there is no objection we shall include that letter in the record along with my letter to you dated December 12, 1955.[17a]

Mr. HIGGINS. Thank you, sir. It should be a part of this presentation.

Also, we undoubtedly will need to buy new equipment from time to time, not only to meet current production requirements but also to establish production packages and standby lines to provide for mobilization production of newly developed and proven munitions.

It is quite possible that our most important consideration will be the equitable distribution of our future appropriations between our peacetime needs and our mobilization readiness.

You may be assured that we have in the past and will continue in the future to keep our equipment reserve under constant surveillance, and that all available measures will be taken to insure maintenance of a production base capable of meeting any foreseeable emergency at the least possible cost to the taxpayer.

Prior to publication of the new policy, the Army had started a survey to determine whether present procedures for layaway and maintenance of the Government-owned portion of the Army's production base needs to be revised in the light of current conditions. This survey will be broadened to meet provisions of the new DOD policy. It probably will be 6 months before all results are in and final decisions made.

We in the Army are only too well aware of the need for a healthy, readily expandable, domestic machine-tool industry. Within the limits of available funds, we will assist in the maintenance of that industry by purchase of new equipment to meet our current and mobilization needs.

We do not support widespread leasing of Government equipment for nondefense production, but we do consider that leasing is justified when the only alternative is the loss of production capacity essential to the mobilization base.

I have already introduced my associates here, who are with me today, who are experts in this field, and we together will attempt to answer any questions.

But before I finish, sir, I would like, if I may, to say something about the age of our tools, as this question came up this morning, and it is a very important one.

We in the Army are very fortunate that most of our tools were disposed of after World War II. Accordingly 62 percent of the machine tools now owned by the Army are only 3 to 5 years old; 66 percent are 3 to 10 years old; and 95 percent are 3 to 15 years old.

I have used machine tool since I was 20 years old, and I think it would be a fair statement to say that in the average private plant, the average machine-tool age is probably 15 years. These experts back here would know better than I, but anyway we are in pretty good shape with the age factor of machine tools, Mr. Chairman.

[17a] See appendixes 6 and 6 (a), p. 149, for correspondence referred to.

Mr. STULTS. At that point, Mr. Secretary, do you suppose that it is fair to say that Douglas is producing Nikes and has a machine tool average age of 15 years?

Mr. HIGGINS. Well, to answer that specifically, the machine work on the Nikes, hardly any of it is done by Douglas. That is done in private industry, and a very large percentage of it on private tools.

Mr. STULTS. Well, what my questions really involved is, Do you feel that modern implements of war are being built on machine tools that are 15 years old?

Mr. HIGGINS. Well, if it is a private plant, every plant amortizes its tools, and therefore, the tools shouldn't be beyond a certain age when they would be going to our friends in the machine-tool industry for new machines.

There isn't anyone that is going to stay in competition these days for very long unless he keeps a fairly modern plant. And I would assume from that consideration that that is going on.

Senator SPARKMAN. Mr. Secretary, that change in policy, or modification of policy, with reference to acquisition and maintenance of machine-tool reserves, do you think that it will work all right and give us adequate protection in regard to machine tools?

Mr. HIGGINS. To complete that cycle, we will budget from now on for what we see that we need and, if that budgetary proposal is supported through the funds for that program, yes.

Senator SPARKMAN. Let me ask you, Under the former plan where the $100 million was appropriated, was that to be managed as one to represent all three of the services?

Mr. HIGGINS. No, our part——

Mr. WEBB. The $100 million was for the Department of Defense.

Mr. HIGGINS. We used what?

Mr. WEBB. $1 million.

Senator SPARKMAN. What I really meant was, the $100 million was really set up as 1 fund for the whole Defense Department; then the 3 services more or less drew their needs out of that, is that right?

Mr. HIGGINS. Well, it is my understanding we allocated $1 million.

Mr. WEBB. Actually we made recommendations to the Department of Defense for a part of the $100 million. Each of the 3 departments submitted certain projects for machine tools. The Department of Defense then set these projects up in order of priority, and it so developed that on the basis of this priority we received $1 million; the Navy, I think, $14 or $15 million; and the Air Force, $84 million.

Senator SPARKMAN. Yes. The point I was trying to make, in setting it up it was set up as one, but within the Defense Department each department was assigned, each service was assigned a certain allocation, was allocated a certain part of the fund?

Mr. HIGGINS. That is correct.

Senator SPARKMAN. Now, as I see it, each one of you will come in with your own budget requests?

Mr. HIGGINS. Yes, sir.

Senator SPARKMAN. Then it is a question of getting adequate appropriations for each service to do its own procurement?

Mr. HIGGINS. Yes, sir; we will have to appear and acquire this money the same as anything else here today, and it will depend upon our ability——

Senator SPARKMAN. Well, will it stand out in the budget as being for that particular purpose?

Mr. HIGGINS. Who makes the budget?

General WESTPHALINGER. I do. No, sir; it will not stand out in the budget.

Senator SPARKMAN. It will simply be general appropriations that may or may not be used for that particular purpose; isn't that right?

General WESTPHALINGER. We would have specific purposes for which we were going to use the funds. In other words, we would have definite projects outlined.

Mr. HIGGINS. But, in the budget——

Senator SPARKMAN. But when Congress appropriates the money to you, it wouldn't mean that you had to use it for that, would it?

General WESTPHALINGER. That is correct.

Senator SPARKMAN. It would be up to the service to use it in whatever way it thought best?

General WESTPHALINGER. We would defend it on a certain basis and, if there were any necessary changes, we would have the flexibility of changing as we saw fit.

Mr. STULTS. So, presumably you could decide whether you want a certain missile, let's say the Redstone, if you want an X quantity, or whether you want one-half of X quantity plus a second line for production; is that right?

General WESTPHALINGER. That is right.

Mr. STULTS. So that you are going to have to make the determination in asking, presumably before you ask for money, whether you want weapons in being or whether you want production equipment lines in being?

Mr. HIGGINS. Well, may I answer that specifically here, sir, and here I would like to break down for you our layaway program which we feel—and we have a sense of security in this layaway program.

We have, first of all, the MRMR, our mobilization reserve material requirement, projected on the basis of requirements of a war to be fought, a war of the future. Then, we have mobilized ourselves for that production. We have machine tools either on order or in being to meet that production.

For instance, we have three lines for the M–48 tank today completely tooled. Now, the same thing right on down the line to a round of small-arms ammunition. The production capability for producing that item, at the rate that it has been determined by the military experts they will require in a war, has been provided.

Now, then, as we fill our needs and as the mobilization reserves become adequate, we lay away these lines in three different fashions.

We have one which we call Turnkey. That is a place where we own the brick and mortar, or the contractor may own the brick and mortar. We normally own all the machine tools. We want to keep that line as near warm as possible, so we have a skeleton force in that plant, although it is not in production. They will occasionally turn over these machine tools under power to be sure that everything is in good order.

Now, that is typical of one of our tank-engine plants, for instance, and those plants, then, are ready to go as soon as they can be manned, and the raw materials delivered for the starting operation.

The second method of layaway is where we own all or most of the machine tools, but the brick and mortar is owned by the civilian contractor. He wants this building for production. We may move these machine tools over to one side, if there is enough room within the building. If there is not enough room, we set up a quonset-hut type or cinder-block type building right next to this particular operation and the machine tools are stored there; or they are stored in nearby commercial warehouses, or in Army space at one of a number of locations.

The third method of packaging our machine tools is where we have just Government-owned tools, hit or miss in a line of a privately owned factory. So, we pull those hit-or-miss tools out, send them to the nearest Government warehouse, ticketed for this particular operation and this operation only, and they are held in reserve for that line should we get into difficulty.

So, we are equipped now to do the job if war came tomorrow.

Mr. STULTS. I assumed that tanks—the case you mentioned—have been in production for several years at least. Let's take one of the new missile programs, for example—it seems to me that somebody has to make a decision whether you are going to go all out for production now with a certain amount of money, or whether you are going to offset or delay some of your current production in order to have more future capacity. At what echelon will this be decided?

Number two, do you feel, as Assistant Secretary in charge of Logistics, that these decisions will be better taken care of under the new scheme than the old.

Mr. HIGGINS. Well, sir, to answer your questions categorically, as a missile is standardized, such as the Honest John, we have a given production requirement which is classified. We have this missile being produced on X number of lines now. Those lines are tooled to produce the maximum foreseeable production that the Army feels it will need for Honest John. That is what we call a standardized item.

Now, you referred a moment ago to the Redstone. That is not a standardized item. That is still under development under the auspices of our Redstone Arsenal in Alabama. It moves along through the various research and development stages and it is decided to standardize it. By that time there have been determined the requirements for that item by the Army, and then we will mobilize, tool completely, to meet that requirement.

So, this is a progressive thing, and whether we had this directive, that directive, or what have you, we would do this job anyway. We would place orders for new machine tools, come any condition. We tool for that.

Mr. STULTS. So in the event tomorrow is M-day, the Army will need no further production capacity for the weapons that you produce; is that right?

Mr. HIGGINS. That is right, if they are standardized.

Is this a correct statement?

General WESTPHALINGER. We have enough reserve and capacity to carry us until we can get into production in new plants.

Senator SPARKMAN. In other words, you would have enough to tide over this first period?

General WESTPHALINGER. That is right.

Mr. HIGGINS. Well, let's take the tank I was referring to——

General WESTPHALINGER. We have a special case there.

Mr. HIGGINS. Let's take ammunition; we have tooled——

General WESTPHALINGER. We have tooled up to the point of carrying us over until we can get additional production.

Mr. HIGGINS. We have the plants and one thing and another against our MRMR; they are lined up; but all we have to do is reactivate them.

General WESTPHALINGER. This provides bringing in new production up to 18 months.

Mr. HIGGINS. But they are tooled for a given amount.

General WESTPHALINGER. They are tooled for a given amount, that is right.

Senator SPARKMAN. May I just say it seems to me that is about all you could do, because it would be impossible to tool up to take care of an all-out war.

Mr. HIGGINS. Just to clear the air here, this MRMR—mobilization reserve material requirement—is the fellow we are after.

Now, we are tooled for that to carry us through a certain period.

General WESTPHALINGER. Considering the fact that we can get additional production after 18 months.

Senator SPARKMAN. In other words, if you get a certain line of production, that it would take you 6 months to build new plants, and get equipment to put that into operation, you have enough requirements to carry you over that 6 months?

Mr. HIGGINS. That is right.

General WESTPHALINGER. That is correct.

Mr. ODOM. General, did I understand you to say that it would also carry you a period of 18 months? I heard the word 18.

General WESTPHALINGER. The longest lead-time item is about 18 months and we have sufficient reserves or production capacity to take care of us until we can get the additional production.

Senator SPARKMAN. And some of that might be 6 months or it might be 12, and some might be 18.

General WESTPHALINGER. Up to 18 months.

Senator SPARKMAN. Up to 18 as a maximum.

Mr. STULTS. Do you see any advantage in having a Defense Department policy on this sort of program rather than three individual services?

I have noticed in the press that the Army has been seeking, for example, to get ground support, observation planes, put under your control rather than under the Air Force. Certain of the new larger missiles might be under you; some might be under the Air Force; some presumably under the Navy. Until that determination is made you can't do much tooling up. Not one of your three services are given the responsibility; are you?

Mr. HIGGINS. Any of the aircraft that we are getting into now is all procured by the Air Force.

Mr. STULTS. So they will also have a mobilization reserve for you as if it were their own?

Mr. HIGGINS. For instance, they would furnish us aircraft and we furnish them with bombs. If it's ordnance, we would furnish that to them.

Now, if it is aircraft, per se, the Air Force will buy our requirements.

Mr. STULTS. And you have to have close liaison so you have to know what their requirements are so you can set up an MRMR?

Mr. HIGGINS. Oh, yes.

Mr. STULTS. This committee has found lots of uncertainties in this essential procurement. We have often had trouble trying to figure out who knows what and who takes the responsibility.

Senator SPARKMAN. Thank you, Mr. Secretary, and, gentlemen, we appreciate your help.

Mr. HIGGINS. Thank you.

Senator SPARKMAN. Now, Mr. Bergstrom, will you come up, please?

Before I ask these gentlemen to question you, there is just one question I should like to ask. In your statement, Mr. Bergstrom, you said that the tool industry, the machine-tool industry, employs only 60,000 employees; is that right?

STATEMENT OF SWAN E. BERGSTROM, ACCOMPANIED BY GRAHAM E. MARX AND TELL BERNA—Resumed

Mr. BERGSTROM. Sixty thousand wage earners.

Senator SPARKMAN. In the case of all-out mobilization, would that be greatly expanded?

What was the experience during World War II and during the Korean war?

Mr. BERGSTROM. I can speak probably more authoritatively on what happened during Korea, because I happened to be in the middle of a buildup of production of machine tools here in Washington.

We experienced greater difficulty in building up our productive capacity during Korea than we did in World War II because prior to this country getting into the war in 1941 we had at least a year and a half of building up production capacity by furnishing machine tools to our allies.

At Korea, just prior to Korea, the industry at that time was probably at one of the lowest points in production after World War II. We were just getting a little bit better the first half of 1950, then Korea came, and it was very difficult to build up our working force sufficienty to take care of the requirements. One of the bottlenecks, as far as the machine-tool industry was concerned, was to get the necessary skilled people into our industry.

Senator SPARKMAN. Well, that is really the purpose of my question. When I saw the small number that you are working with normally I just wondered how easy it would be to expand that quickly. Certainly, we know that in wartime we do have the habit of accumulating a bottleneck.

I can remember some of the problems in getting ready for World War II. While it may have been easier than it was in the Korean war, it was not at all easy. I was on the Military Affairs Committee of the House of Representatives at that time and also I was on a special congressional committee that made a study of our mobilization effort, and I know we had a terrible time getting things going, even with the previous time that we had to get ready and also with the warning that we had.

So, I was just wondering if the expansion of the machine-tool-making business was not a bottleneck itself that was a little difficult before you could start breaking the bottleneck of supplying machine tools.

Mr. BERGSTROM. And that is the reason, Senator, why we have made a recommendation in our statement that——

Senator SPARKMAN. In other words, it is a matter of national security to have an alert, going machine-tool industry?

Mr. BERGSTROM. That is right. And to have regulations set up so that the keymen such as engineers, skilled mechanics, supervision, are not subject to draft as far as the armed services are concerned.

Senator SPARKMAN. Does the machine-tool industry have much difficulty in getting qualified engineers?

Mr. BERGSTROM. Well, I am going to say this, that engineers today are probably the scarcest article in the business.

Senator SPARKMAN. That is the reason I asked the question. This is a little divergence from what we are studying here, but I think it is something that needs to be called to the attention of the American people much more emphatically than it has been called thus far, and that is, the scarcity of engineers, scientists, physicists, trained personnel of that type in every field.

Mr. BERGSTROM. You must remember this, that the complexity of machine-tool design today is much greater than it was 10 years ago or 15 years ago or 20 years ago.

In our own company, the controls for machine tools, particularly machine tools that go into high production, machine tools that go into the aircraft industry, machine tools that go into some of the guided-missle production, I would say are manyfold more complicated and complex today than they were 10 years ago.

For example——

Senator SPARKMAN. And you haven't adapted automation to engineering very well, have you?

Mr. BERGSTROM. It is very hard to do that. It seems that automation might be applied pretty well to mechanical things, but to the human mind or the human being it still has to be worked out.

But I just wanted to bring out one point, the complexity in controls in the last 4 years has increased to the point where engineering has become one of the biggest factors in our business.

Just to cite an example—we have been asked to produce machine tools for the aircraft industry, part of the group of machines that the Secretary of Defense mentioned this morning, that are to be numerically controlled. In other words, engineers in the drawing office will calculate, through mechanical and electronic means, certain numerical data which, in turn, will be translated into punch cards or punch tape. That, in turn, passes through an electronic digital analog computer, and that in turn goes to a card reader or tape reader that controls the machine without the effort of the operator.

In other words, the skill of the operator is pretty well translated into this new control.

Now, the reason for this is that these complex configurations that go to make up the new components in aircraft are so complicated that if we had to train people to operate these complex machines, we wouldn't have the training capacity or the people capable of doing it in quantity enough to take care of the requirements.

So what we are trying to do is take a few skilled and trained engineers and technicians to put this information on a record, so that we can reproduce it and then, in turn, have the controls actually operate the machine tool.

Now, that takes a lot of engineering, and it is, I think, a wonderful contribution that the machine-tool industry has made, and the electronic industry, as a matter of fact, has made, to the control of machine tools in the last 5 years.

That is why we have to have so many engineers. Unfortunately, we in the machine-tool industry today have to compete with so many other industries that are just as much interested in that type of talent. We don't have enough capacity in our colleges, we don't have enough people taking engineering, I am afraid.

Senator SPARKMAN. Mr. Stults.

Mr. STULTS. Now, Secretary Pike, this morning, seems to say that they know what need for present-day weapons, but it would be risky to buy machines for any future mobilization needs because they might get obsolete or out of date; I assume either the weapons or the machines themselves would get out of date.

Do you feel that this is a valid criticism against the so-called Vance plan, or what are your thoughts on Secretary Pike's statement?

Mr. BERGSTROM. Well, I think that is pretty much a matter of interpretation. My own experience in World War II and in Korea was that we were very happy to have the tools we had in being at the time that both conditions took place. They may not have been of the most modern vintage, but we were very happy to have something to start producing war materiel on.

Now, there are a number of types of machine tools that we call standard general-purpose machine tools that do not necessarily become completely obsolete over a period of, say, 5 or 10 years. I mean, they can be used. And I think that Secretary Higgins very well pointed this out in his testimony, that they have certain lines of machines that may not be the last word as far as modern equipment is concerned, but they are at least in being and can start to produce end items in time to get other new and more modern up-to-date equipment in place.

So I would say this: There are certain types of machine tools that we feel are certainly essential to the mobilization base. And I would like to have Mr. Graham Marx just show you some of the machines that we have in mind, particularly the long lead-time machine tool for making not only more large machine tools but also large implements of war; for example, like large guns, tanks, and other heavy articles.

Mr. Marx, would you mind showing and explaining this to the committee, please?

Mr. MARX. Gentlemen, this particular machine is what we would refer to as an 8-inch horizontal boring machine. Now, that in the industry is a perfectly standard general-purpose machine tool. It is not, mind you, a big elephant, it is just a medium-sized elephant, as elephants go.

A machine of this type is pictured here boring and milling the crown of a hundred-ton press. This casting that you see here weighs 100 tons, so that you can discern some of the size of the machine from that.

Now, that machine is likewise used in the Navy yards——

Senator SPARKMAN. Let me ask you, the thing you referred to weighing 100 tons, is that what is being worked on?

Mr. MARX. Yes, sir; that is a component.

Senator SPARKMAN. In other words, the machine is boring that?

Mr. MARX. That is right, sir.

Senator SPARKMAN. With an 8-inch bore?

Mr. MARX. No, sir; the spindle of the machine is 8 inches in diameter, and it will be boring a hole that will finish from the size of this hole, which I judge here is, roughly speaking, about 12 or 14 inches in diameter.

And this is the cap, the crown of a large hydraulic press, which might be associated with the aircraft industry eventually. And this machine, I stress, is a general-purpose type of machine, and this machine is the type that is used by the Navy in connection with gear and turbine work specifically, and the same identical machine could be moved from the press plant to the Navy yard to do the type of work that the Navy might have.

Mr. STULTS. You would only need a new set of tools and dies and gages; is that right?

Mr. MARX. Surprisingly, a small amount of that, sir. The basic machine itself here is a standard machine that would be used. It has the range of feeds and speeds that would adapt itself to both classes of work. Again, we might take it from the Navy yard and put it in an atomic energy installation.

We are currently building a machine of this type that will face and bore a pipe 18 feet in diameter and 4 feet long. Now, that is a big piece, and that is just the beginning of some of the atomic energy program. And, it relies upon general purpose types of machine tools.

Now, that is a typical example of the type that we mean. There are only, to my knowledge, three companies in the country that make machines of this size.

Mr. STULTS. Are there many of them in our inventory now?

Mr. MARX. Very few, Mr. Stults.

Mr. STULTS. And how long would it take you, Mr. Marx, how long would it take anybody to "knock off" one of those things?

Mr. MARX. Well, the casual process of "knocking it off," I would judge, would probably take a year and a half on this particular size. There is a tremendous engineering——

Senator SPARKMAN. You mean in building one?

Mr. MARX. In building it, yes, sir.

Now, I don't illustrate this at the largest type. There are larger types being visualized today.

Mr. STULTS. This indicates, then, that even though you might never make another press like that, there is some sort of end item, or some other form of production equipment, that could make use of this 8-inch boring machine; is that right?

Mr. MARX. This type of machine, sir, is considered one of the most versatile types of machine for a wide variety of applications, because you bore, you mill, you drill with it.

Mr. STULTS. How much does that cost?

Mr. MARX. That machine today would currently cost about one-third of a million dollars.

This is another type of machine of a different configuration that is known as a planer-type milling machine. Now, this again is a medium-

sized elephant. That is a machine that machines large castings, again associated with the heavy-press industry.

Again, it is intimately associated with the naval use and also for atomic energy purposes.

Now, I might say incidentally, as Mr. Bergstrom has suggested here, that one of the most interesting things about these machines is not only do we build them, but we must have them to build them on.

Mr. STULTS. Or to build other productive equipment on. I mean, the heavy press and both of those items are apparently working on the heavy press program, which itself is a tool for aircraft industry?

Mr. MARX. Exactly. That is correct.

And, this machine here is still another type of machine which is probably one of the simpler types known as a planer. This machine again is the type of machine that is widely used, for example, in the machine-tool industry, basically, but is used in large measure in such Government operations at the navy yards and, to some extent, in the arsenals.

Mr. BERGSTROM. Thank you.

Mr. STULTS. As I get your point, you feel that it would be very shortsighted not to keep the 2 or 3 producers of those basic tools pretty busy turning out for the reserve, and to keep them healthy so they can turn them out fast when we get into any sort of a scrape? Is that the position of the Machine Tool Builders Association?

Mr. BERGSTROM. I think we have stated that pretty clearly in our testimony, that we fail to see why the elephant tool program hasn't been given more active consideration; and some of the reasons as indicated by Mr. Marx, that here are tools that you cannot pinpoint definitely to an end item of military value, it is a machine tool which has a wide range of application and being such a tool, it can be used for, we will say, defense-supporting types of equipment.

Mr. STULTS. Yet it would be difficult to assume that an Air Force general would commit a third of a million of his funds to buy a machine that might be used for working on a battleship in a navy yard.

Mr. BERGSTROM. Well, I am not in a position to answer that. Probably he wouldn't.

Mr. STULTS. You are in favor of using as much as possible those tools which are in the reserve, is that correct?

Mr. BERGSTROM. Yes; I am, and I think the industry is in accord with the philosophy of using the tools that are in being. By so doing, they are kept in good shape, or should be maintained, getting some benefit out of them, and also there is always this possibility of keeping them in a nonobsolescent state.

In other words, they can be improved upon by either replacement or modification, and we can also determine the effectiveness of that tool in production. As a matter of fact, we subscribe to the policy of the Air Force in their recent purchase of a number of specialized long lead-time machine tools for putting these machine tools into active production.

Mr. STULTS. There are several specific questions that go back to your testimony before us back 3 or 4 years ago, Mr. Bergstrom, in 1952, when we were having troubles with priorities and controls. I can remember going to Cleveland and seeing that the Warner & Swasey Co. had 20 men on the field just picking up little bits and pieces of rods

and bars and shapes that they had to have to finish a tool. The tool was lying idle because they did not have 3 feet of a certain type of pipe or rod.

Has your organization gotten involved closely enough with ODM plans that you can be sure that that won't happen again? You indicated you had worked with a trigger program and the pool orders—do you feel that we are in as good shape on priorities as you would like us to be?

Mr. BERGSTROM. No; we are not; but we do hope to be able to work out some plan with ODM that would enable the machine-tool industry to have top priority of materials, so they can start manufacturing machine tools immediately, the trigger program is given not only top priority on machine tools, but also some understanding as far as price control is concerned, because after all, they have to have some indication of what price they are going to get for their product. We waited for 11 months after Korea before we had a determination on what price we were going to get for the machines we built.

Mr. STULTS. Which might have made some people a little reticent to put some people on double-time and incur other premium costs, is that right?

Mr. BERGSTROM. That is true, but by the same token, Mr. Chairman, I think the industry went right ahead and built up production, and I think in good faith, indicated by the outcome of the whole proposition.

I think that perhaps the most difficult part, outside of the price situation, was the question of priority on materials. Priority on materials to be comparable with that of the armed services wasn't given to the industry until November 1951. That was the Z–2 priority.

I was then Director of the Metal-Working Equipment Division and I know how difficult it was to get it. We should not go through that again. As a matter of fact, we will not have time. There were critical presses for ammunition held up because we were unable to get plate to complete the presses, and it is not a very happy situation to be in.

Then again, I just want to refer back to the question of deferment of skilled technicians, engineers, and workmen in the industry, so that there would not be the siphoning off of some of the best people from the industry and placing them into the armed services.

Mr. STULTS. You mentioned renegotiation. Would you submit for the committee's record a copy of your statement on renegotiation that you submitted to the Joint Committee on Internal Revenue?

Mr. BERGSTROM. Mr. Barlow will do that.[18]

Mr. STULTS. One last question. You did mention that the turbine and turbine gear program that the Vance committee had found pretty important seems not to have been taken very good care of in the last 2 or 3 years, even though Congress budgeted money presumably that could have been earmarked for that purpose.

Do you feel that such programs would have any better chance of fulfillment under the new directive of the Defense Department?

---

[18] See appendix 8, p. 178, letter from Joel Barlow, counsel for National Machine Tool Builders' Association, and American Machine Tool Distributors' Association to Joint Committee on Internal Revenue Taxation, re renegotiation study.

Mr. BERGSTROM. I am not in a position to say, because, frankly, I haven't had an opportunity to study the new directive of the Defense Department.

Mr. STULTS. Your association was not kept closely in touch with the development of the new program?

Mr. BERGSTROM. In the Defense Department?

Mr. STULTS. Yes.

Mr. BERGSTROM. Not close enough that I can give you a determination on it now.

The only thing I want to say is this: that we have to have W propulsion equipment, new reduction gears for any ships that we want to build or should build in case of a new emergency. We cannot go back to the triple expansion engines pulling a boat at the rate of 12 knots an hour and expect to get any place. We have to get more turbine drives to drive more speed to the cargo ships, and the only way you can get turbine drive to the turbine is to get the equipment to do it with.

We haven't got that equipment, which has certainly been manifested by testimony and surveys made by turbine and turbine gear manufacturers of this country.

Senator SPARKMAN. Well, thank you very much, Mr. Bergstrom and gentlemen. We appreciate your helping us out.

The committee will stand in recess until 10 o'clock tomorrow morning, in this room.

(Whereupon, at 3 p. m., the committee recessed, to reconvene at 10 a. m., Wednesday, February 8, 1956.

MACHINE-TOOL PROGRAMS

WEDNESDAY, FEBRUARY 8, 1956

UNITED STATES SENATE,
SELECT COMMITTEE ON SMALL BUSINESS,
SUBCOMMITTEE ON RELATIONS OF
BUSINESS WITH GOVERNMENT,
Washington, D. C.

The select committee met, pursuant to notice, at 10:05 a. m., in room 457 Senate Office Building, Senator Edward J. Thye (chairman of the subcommittee) presiding.

Present: Senators Thye, Duff, and Saltonstall.

Also present: Walter B. Stults, staff director; Lewis G. Odom, Jr., chief counsel; and Roy E. Foulke, professional staff member.

Senator THYE. If we may please come to order, we will proceed immediately.

The first witness this morning will be Mr. Dudley C. Sharp, the Assistant Secretary of the Air Force. Mr. Sharp, if you will come up here and proceed, please.

Mr. SHARP. Mr. Chairman, this is Mr. D. R. Jackson, my Deputy for Materiel Programs in the Air Force.

This is Col. W. R. Carter, who is Chief of the Industrial Resources Division of the Air Force. Maybe they can answer some questions that I am not able to answer.

Senator THYE. Mr. Sharp, you may proceed in whatever manner you desire.

Mr. SHARP. Mr. Chairman, if I may be permitted, I would like to read a prepared statement.

Senator THYE. Thank you. You may proceed.

STATEMENT OF DUDLEY C. SHARP, ASSISTANT SECRETARY OF THE AIR FORCE (MATERIEL); ACCOMPANIED BY D. R. JACKSON, DEPUTY TO THE ASSISTANT SECRETARY (MATERIEL); AND COL. W. R. CARTER, CHIEF, INDUSTRIAL RESOURCES DIVISION, DEPT. OF THE AIR FORCE

Mr. SHARP. Mr. Chairman, I welcome this opportunity that your subcommittee has afforded me to come here to discuss the Air Force machine-tool program and its relation to small business. I personally regard this to be an all-important program and one which is vital to our Nation's defense. Having been a small-business man myself, I am quite familiar with the problems of small business.

When I assumed my present duties, I was extremely gratified to find that the Air Force had such a sound and realistic small-business pro-

gram. The policies which we follow in assisting small business to participate in our procurement and production program extend not only to the purchase of machine tools, but to the utilization of such equipment.

Before describing current Air Force policy on the machine-tool program, I would like to give you a general picture of the status of our current metalworking equipment inventory. I would also like to take the time to clarify certain definitions of categories of equipment, lest there be any misunderstanding about the type of equipment I am going to discuss. The three general definitions of these categories are offered:

1. Machine tools are restricted to that metalworking equipment which will produce "chips." In this category are such items as lathes, boring machines, drilling machines, and grinding equipment.

2. Metalworking equipment includes machine tools but also includes equipment which alters the form or shape of material without producing "chips." In this category are found presses, bending and forming equipment, shears, forging machines, et cetera.

3.Production equipment includes the above categories, plus other equipment or machinery used in production for joining, measuring, testing, heat treating, et cetera. Such items as welding equipment, measuring and testing equipment, heat-treat furnaces, et cetera, fall in this category.

The Air Force normally uses the broader category of "production equipment" when discussing its industrial reserve. The latest inventory figure for production equipment (for items valued at $500 and over) is approximately 145,000 items. However, I believe you are more concerned with the somewhat restricted category of metalworking equipment, and my future statements will refer to this category of items. The inventory figures are subject to constant fluctuation and for that reason it has been necessary to use approximations in some instances.

The following metalworking equipment figures may be of interest to the committee:

1. The total items of metalworking equipment in the Air Force inventory number 88,500, of which 61,500 are in active use, and 27,000 in idle storage. The estimated value of this equipment is $1 billion.

Senator THYE. Mr. Sharp, would you mind an interruption at that point?

Mr. SHARP. No, sir.

Senator THYE. The 27,000 in idle storage, is that stock turned from time to time into use, so as to keep it in complete condition?

Mr. SHARP. Yes, sir. It is a reserve.

Senator THYE. Is any of this 27,000 in the idle storage now classified as obsolete or not a tool that you would expect to use in the future?

Mr. SHARP. I am sure some of those tools are, but we are constantly studying the tools to see if we can find some that are obsolete. However, when the tools are put back in storage after being used, they are all completely reworked and brought up to a modern condition; so they are in good shape. When they are taken out of storage, they are in condition to be operated. If they become obsolete—each year more become obsolete—we continuously study that.

Senator THYE. Thank you, sir.

Mr. SHARP. 2. The acquisition cost of this equipment averages approximately $11,000 per tool. Approximately one-half of this equipment is under 5 years of age, with the largest percentage of the remainder being in the 10- to 15-year-age bracket.

3. The Air Force has metalworking equipment in 1,300 contractors' plants, with 1,130 of these contractors falling in the category of small-business concerns. These 1,130 contractors have 12,300 items, or 20 percent of the tools in active use. Of the 61,500 active items, 8,000 are on lease agreement.

Recently the Air Force announced its industrial production readiness policy which has dictated a new approach to maintaining the machine-tool reserve. Briefly the new industrial production readiness policy is designed to create industrial readiness as an integral part of our active production base. This new policy is based on the premise that, for the first time in modern history, our Nation is faced with a continuing potential threat of devastating destruction at the onset of general war. Thus, insofar as Air Force missions are concerned, the possibility of a full-scale war of attrition with a prolonged munitions production buildup is minimized, if not eliminated. The decisive phase of a full-scale war will be relatively short, and assets for its conduct must be in hand or available over a minimum period.

Conversely, it is probable that less acute emergency situations, without domestic industrial damage, will arise which require accelerated production of some selected munitions. To make this policy into a meaningful program requires that production sources have capacity which, through the addition of material and manpower, will permit accelerated production.

In accordance with the new readiness policy, and with the concurrence of the Secretary of Defense, the Air Force reoriented its portion of the reserve tool and facilities program from the "buy and store" objective to one of "buy and use."

Since the reserve tool and facilities program, as directed to the Air Force, prevented the machine tools procured under the program from being used in current production, the Air Force returned to the Department of Defense the $84.6 million that had been appropriated under this program and is continuing the procurement of machine tools under a modernization and replacement program, using Air Force funds.

In implementing the modernization and replacement program, full benefit was taken of the effort expended on and accomplishments of the former program, in that essentially the same tools, incorporating the latest technological advancements, were procured. In awarding contracts in the amount of $63 million for 682 machine tools, the Air Force made every effort to spread the procurement among as many builders as possible.

In reply to Senator Sparkman's letter of December 12, 1955,[19] the Air Force gave reference to $69 million it proposed to spend for modernization and replacement. Of the total $69 million, $63 million is on contract for machine tools with the remaining $6 million set aside for later procurement of electronic control equipment and payment of transportation costs, contingencies, et cetera.

[19] See appendixes 9 and 9 (a), p. 184.

The results of this program, and future planned programs, should do much toward retaining our mobilization potential for producing machine tools and maintaining the health of the machine-tool industry. Also, it is interesting to note that, of the 17 machine-tool builders receiving contracts under this program, 9 companies are in the category of small business.

Requests for proposals were sent to 107 companies, 66 of which were small business. However, only 65 percent of the small-business concerns returned a bid. The value of contracts going to small business amounted to $14.8 million, or approximately 23.5 percent of the dollar amount spent for machine tools.

As the tools procured under this program are delivered, they will be placed in active production to meet existing requirements and to replace obsolete tools and those worn beyond economical repair. It is anticipated that these tools will be so productive that the saving accrued by replacing obsolete tools will permit amortization of the new tools in a period of 3 to 4 years. Subsequent phases of this program will, (1) procure more tools over a broader range, and (2) utilize for the same purposes those tools from the Air Force inactive reserve which are suitable.

To summarize, the Air Force position with respect to machine tools is based on the principle that our prime responsibility is to be in a constant state of readiness to accomplish the Air Force strategic, tactical and air defense missions, or satisfy any other circumstances which would require rapid acceleration of production.

For this reason, we have made appropriate adjustments in our policies with respect to the reserve machine-tool program as originally constituted. We believe this to be in the best interest of the security of the Nation and plan to continue to pursue a vigorous policy of machine-tool modernization and replacement in succeeding years.

Thank you, sir.

Senator THYE. Mr. Sharp, in the event that you had to expand all your plant operation to the maximum, would there be any phase of your tool supplies that would be in short supply? That is a rather broad question, I realize, but we must project ourselves. If some emergency were to occur and if any industrial part of our Nation's economy was injured, which it might well be if we were faced with an emergency, then you would have to have a supply at some point that could be drawn on to expand whatever facilities were remaining uninjured. You are faced with atomic warfare, and if we ever had a sneak attack, you could expect some of your industrial plants to take the first brunt of a bombing expedition of an enemy. That is the question I am wondering about.

Do you deploy your tool supply, and do you have a sufficient surplus so that we would not be caught short were we confronted with such an emergency?

Mr. SHARP. That is a very good question, sir. It is a rather broad one.

Senator THYE. I know it is.

Mr. SHARP. We attempt to study this problem constantly so that we will have the critical tools in ample supply, and dispersed, so that if one plant should be hit, we would be able to expand the operations of another plant and a similar type of article in perhaps double the amount of the production that that plant had before.

Of course, it is conceivable that enough plants could be wiped out so that we would not have enough equipment. But we feel that this is a more sound way of approaching the problem than trying to put the machines in storage where those storage plants might also be wiped out, and it takes a great deal of time to bring machines out of storage and put them into operation. It is a matter of about 6 months, as a rule.

Senator THYE. There is not any question about that, because even under the best of storage conditions, you might have problems of deterioration unexpectedly.

Mr. SHARP. Yes, sir.

Senator THYE. Do you have any questions, Mr. Stults?

Mr. STULTS. Yes, sir.

Mr. Secretary, your statement says that the reserve tool and facilities program prevented the machine tools procured from being used in current production. That was the interpretation of the Air Force, that none of these tools procured under the appropriation made by Congress could be used under the appropriation?

Mr. SHARP. No, sir. That was the interpretation to us by the Department of Defense. The Department of Defense definitely gave us the directive that these tools must not be used, and must be placed in storage.

Mr. STULTS. Did you in the Air Force, since presumably you had the greatest stake—about 85 percent of the money that was earmarked back in fiscal 1955—did you ever make any representations that maybe a word or two ought to be changed in the law if the Defense Department lawyers so interpreted what Congres meant?

Mr. SHARP. I cannot answer that my self. I will ask Mr. Jackson, because he was here at that time.

Mr. JACKSON. When we made the change in the policy, it was discussed with Mr. Wilson personally.

Mr. STULTS. That was the change in policy in December of this year?

Mr. JACKSON. Which, in effect——

Mr. STULTS. I mean, now, the Vance committee's report came out in January 1953. Congress started appropriating money in fiscal 1954, which is over 2 years ago.

Now, that money had been lying around, $450 million of it, including the $200 million in the last 2 years.

It seems to me that it was very shortsighted, if you feel that the tool situation is not what you would like, not to come to Congress and say, "Change the law so that we may utilize these funds."

Mr. JACKSON. Mr. Chairman, let me point out two things. First of all, we felt that was up to the Department of Defense to do that. Secondly, our policies on reserve tools were somewhat different, or I should say substantially different, from what they were at the time we announced a production readiness policy, which in effect puts emphasis on having the tools in production and ready to accelerate overnight, as it were, in lieu of having tools in storage. So those two factors combined I hope will supply your answer.

But the specific answer is, at that time, no, we did not make any specific recommendations—although it was informally discussed—but there was no formal position given to the Secretary of Defense.

Mr. STULTS. Now, I noticed in yesterday's New York Times that the Secretary of the Air Force decries short-war talk. At a luncheon of the Air Force Association, he said, "Sure, we may get blasted pretty hard at the outset, but we must not assume that that is going to be the situation. We must be prepared for a longer all-out effort as well."

Now, doesn't this new production readiness program, or whatever you call it, put all the emphasis on the short war and much less on the long term?

Mr. SHARP. No. We think that in our situation, the Air Force situation, where most of our plants are in operation—and this may not apply to the Army and the Navy—but most of our plants are in actual production now, that in order to handle any emergency that may arise, whatever type of emergency it may be, whether we have a little warning or whether we have none, or whether it be a localized war, that we can expand more quickly by having excess capacity in the plants that are running so that they can be put into the second shift or maybe the third shift.

Mr. STULTS. All of your plants now have excess capacity?

Mr. SHARP. Practically all of them, yes.

Mr. STULTS. None of them are running three shifts?

Mr. SHARP. Right to capacity, no.

Mr. JACKSON. On critical items——

Senator THYE. I was going to ask this further question. In other words, you could be running a plant at 1 shift a day, or an 8-hour shift out of the 24, using all the tools and all the available space, but if you desired to step that up, you could go to a 3-shift or a 24-hour period, using the same tools, the same space, and the same facilities, to get that increased production under the same roof?

Mr. SHARP. Yes, sir. We could do it very quickly that way.

Senator THYE. Yes, because you would have all the tools; you would have everything geared up. The only difference is that you close down for a certain number of hours in the day, whereas otherwise it would only be a matter of a shift going off and another one coming on.

Mr. SHARP. Yes, sir.

Mr. JACKSON. Also, Mr. Chairman, on your critical weapons, we in most cases have multiple sources, which is another method of expanding our base.

Mr. STULTS. Now, one thing that occurs to me here: As your tools are being used for current production, is there not a wearing out of the tools? Don't they sometimes get worn out from use?

Let us say after we have had these tools, the $63 million worth of tools that you bought this year, and they have been in a full production run for a couple of years; then the emergency hits. Are they as good as brand new tools?

Mr. SHARP. I think they are. That is a very good question, because the real danger of storing tools is that they become completely obsolete. A tool that is kept in production is usually maintained in its best quality, and furthermore, if it needs modernizing, it can be modernized while it is operating.

If it becomes completely obsolete, you know it right away, and then you discard that tool and put in a more modern one.

For that reason, we feel that it is better to have the tool in production. Of course, we must keep a close eye on these tools to know that they can

still produce for 2 or 3 years under vital conditions 24 hours a day. We have to watch that.

But normally a tool will not deteriorate much in 2 or 3 years' time.

Mr. STULTS. We will not be caught, then, you think, with a bunch of tools that have seen their best years of life? They are not like automobiles, which presumably at some point become a one-horse shay and fall apart?

Mr. SHARP. That is right. No, I would not be worried about that.

Mr. STULTS. In your statement you said that you have awarded contracts in the last year for $63 million under your buy-and-use program.

Mr. SHARP. Yes.

Mr. STULTS. How many of these were the long lead-time elephant tools?

Mr. SHARP. I do not know the exact number, but they are all long lead-time tools.

Mr. STULTS. Well, all tools are long lead.

Mr. SHARP. I mean, these are extremely long lead times, 18 months and longer.

Mr. STULTS. So they are all looking, not for production on lines today, but on lines that you will have set up 3 years from now?

Mr. SHARP. To elaborate a little on that, there was almost a 2-year study made with hundreds of representatives of the aircraft industry and the machine-tool industry, who worked on this program to develop the types of tools that would be needed 2 or 3 years from now, as best people could judge, and would fit into the overall manufacturing program, and not into any particular plant. And it took about 2 years to standardize on a tool which could be used in Boeing as well as in Republic Aviation and in other aviation companies to see that it had enough travel, enough length, and enough speed and enough horsepower to handle the new kinds of materials that were coming in.

So one of the reasons for the delay that I mentioned was that it required a terrifically careful study to be sure, even though we were going to store the tools, that we had the tools that we would need when we stored them. It was really a major problem.

That was one of the reasons for this long delay which you referred to, as I understand it, because it took so much study to find out which one of these enormous elephant tools that you are talking about should be ordered and just what type of tools we would need.

Mr. STULTS. Congress was led to believe for a couple of years that you had a pretty strong list, and even $100 million was absolutely minimal, and that you could use much more much faster if Congress had only given it to you.

Mr. SHARP. My impression was that each time the list was firmed up, some rather knowing group in industry would find objections to it, or it did not feel that it was a sound list, so that we had to revise it, which was done a good many times even after I became interested in the program.

Mr. STULTS. So you feel that industry should take the responsibility for a great deal of that delay rather than the services?

Mr. SHARP. Well, I would rather say that they should be given credit for helping us get the right kind of list of tools, which took more time than people thought it would take originally.

Senator THYE. The fact that you were not confronted with an immediate emergency permitted you to stand back and take a good look to determine whether we want to acquire all of these tools as we know them to be today, or whether we are anticipating a change in some of this equipment as of the next month or the next 6 months?

Mr. SHARP. Yes, sir; that is it.

Senator THYE. I have been in some of these plants. I have seen some revolutionary methods of development involving the very structural part of the equipment. I could readily see that any man with the responsibility of acquiring tools would have to stop and make certain that he had the best designed tool to meet the job or to give us the future service that we anticipate.

Mr. SHARP. Yes.

Senator THYE. So you did have a lag after the Korean crisis that caused you to take a very careful look rather than to proceed with what you had previously designed as the best possible equipment or tool.

Am I right in assuming that as being one of the reasons why you took a longer look than might have been expected at the time?

Mr. SHARP. Yes, sir. I think that is a very clear description of what happened.

Senator THYE. I can visualize what problems you were confronted with in planning more scientifically for the future.

Mr. SHARP. Yes, sir, that is exactly it.

Senator THYE. Are there any further questions?

Mr. STULTS. One further question.

Are you pleased with the current state of your inventory? Do you feel that it is up to what you need?

Mr. SHARP. No. I think we need to make more replacements in our tools than we are making now. However, I will say this, that we are instituting a very careful study of this problem which has not been completed yet except for this group of tools, of this extreme long lead-time group of tools, that we have completed the study on. The next study is being made on the simpler tools that are not such long lead-time tools, partially on the basis of finding tools that are more productive to increase our productivity rather than our reserve. If we double the production of a tool, we have doubled our reserve in that tool's capacity, so that we have not completed the program. We have an estimated amount in our budget this year to take care of that at the present time.

Mr. STULTS. Has that been made public?

Mr. SHARP. No, sir. That will come out when the details of the 1957 budget can be released.

Mr. STULTS. That has not yet been made public from the House Appropriations?

Mr. SHARP. That has not yet been made public.

Mr. STULTS. Do you feel that that is sufficient, if carried on for several years, to bring you up to snuff?

Mr. SHARP. At the moment I think it is sufficient, although, as I understand it, the Department of Defense is going to ask for a contingency fund of about $100 million which they can use for this purpose. If the services, because of the fact that it takes a great deal of study to develop a really firm program, find that they have underesti-

mated their needs, and if they can justify those needs to the Department of Defense, they can dip into this reserve fund of approximately $100 million, which I think is a very sound way of financing it.

It is awfully hard for us right now to decide exactly how much we can spend well. We can spend, of course, a great deal of money, but spending it wisely and well is a much more difficult thing.

Mr. STULTS. So there will be a $100 million fund next year, as there has been this year, presumably?

Mr. SHARP. I understand the Department of Defense is requesting that fund.

Mr. STULTS. One more question, if I might, Senator.

Are any of your tools on lease to private firms for work on civilian production?

Mr. SHARP. I would rather ask Colonel Carter that.

Colonel CARTER. There are some, but very few.

Mr. STULTS. Very few? Tens or hundreds or thousands? Do you know, Colonel?

Colonel CARTER. Numbers of companies or numbers of tools, are you speaking of now?

Mr. STULTS. Either way.

Colonel CARTER. I would say that the number of leases to concerns that are using them on commercial work is less than 10.

Mr. STULTS. Less than 10 concerns?

Colonel CARTER. Yes.

Senator THYE. The nature of that tool, is it a special tool, one hard to obtain or costly in its design?

Colonel CARTER. I do not think, Mr. Chairman, that that is the criterion that is used for it. If we have a production line set up, and have an anticipated requirement for it later on, or a partial requirement at the present time, we feel it is advantageous to have a setup whereby that operator can utilize those tools, and we retain that production capability there.

You see, when you root up a line and move it out at some time, it takes you an extended period of time to get it back under reconnaissance. But again, those leases that authorize use on commercial products are approved on the line. They are under the same restriction as ODM imposed.

Senator THYE. Thank you. And thank you, Secretary Sharp.

Mr. SHARP. Thank you.

Senator THYE. The next witness will be R. H. Fogler, Assistant Secretary of the Navy.

Secretary Fogler, if you will come forward, please.

Good morning.

Mr. FOGLER. Mr. Chairman, I would like to introduce to you Captain Aldridge.

Senator THYE. Captain, sir, good morning.

Mr. FOGLER. He is the Assistant Chief of Naval Material, and director of production of that office.

And Mr. Weisbecker, head of the Industrial Tool and Equipment Branch of the Facilities Division in the Bureau of Ships.

Senator THYE. Thank you, sir.

You may proceed, Secretary Fogler, in just whatever manner you desire.

STATEMENT OF RAYMOND H. FOGLER, ASSISTANT SECRETARY OF THE NAVY (MATERIAL)

Mr. FOGLER. You have already, Mr. Chairman, told the people who I am, so I will omit that from my statement.

Senator THYE. Thank you, sir.

Mr. FOGLER. The Assistant Secretary of the Navy (Material) is responsible for the establishment of policy and direction of all matters relating to the industrial and material support of the Navy. This includes production, procurement, facilities and supply management.

Mr. Chairman, I am very happy to have this opportunity to share with you the views of the Navy regarding machine tools. To evaluate military programs for machine tools, it is important to review briefly the history of the programs for machine tools and production facilities from World War II to date, in order to emphasize key factors which must receive attention if we are to achieve more effective production and assure sound planning for possible mobilization. We use the term "machine tools" to mean metalworking items which cut, form, abrade, or shape metal.

Machine tools have long been very important to the Navy. We recall how urgently they were needed for the production demands of World War II and Korea. The reason the need was so great during Korea, so shortly after the World War II buildup, is an interesting subject. In seeking an explanation for the shortages in 1940–43 and in 1950–51, we find that certain factors appeared before or during both emergencies. Five of these factors deserve mention:

(*a*) The limitation of funds for machine tools during peacetime.

(*b*) The depressed condition of the machine-tool industry in the period immediately preceding the emergency.

(*c*) Difficulties in forecasting accurately the requirements for specific types of tools.

I should mention here, Mr. Chairman, that in a recent letter to Senator Sparkman,[20] I advised that we feel that we can now reasonably accurately predict what our needs will be.

Senator THYE. Very good.

Mr. FOGLER. And that is primarily because the further development of what are the current weapons of war is in a different stage than it was previous to the Korean emergency and World War II.

To go back to the text:

(*d*) Major technological developments in military end products.

(*e*) Long-lead time required to produce many types of machine tools.

After World War II, Government policy required the services to dispose of nearly all the war-acquired tools and it was not until late in 1946, that the Director of the Office of War Mobilization and Reconversion authorized the services to initiate a reserve program by selecting equipment then in the hands of War Assets Administration and Reconstruction Finance Corporation. However, definite restrictions prohibited the services from taking the so-called critical types. These were reserved for reconversion of industry to serve the civilian economy. These restrictions were maintained administratively even

[20] See appendixes 10 and 10a, p. 186.

after the enactment in 1947 of Public Law 364, which specifically provided for the establishment of an industrial equipment reserve. As a result, the services could not acquire a balanced reserve to meet their needs. The Navy did obtain some 40,000 items of machine tools and production equipment prior to Korea, but was not able to obtain a full complement of essential general purpose and tool-room equipment. This equipment is, of course, essential, especially during the initial buildup of mobilization production.

Senator THYE. Mr. Secretary, would you mind an interruption at that point?

Now, it was not many years between the close of World War II in 1945 and the Korean emergency, and yet you were definitely short because the sentence reads:

> The Navy did obtain some 40,000 items of machine tools and production equipment prior to Korea.

If you were in such great need that you had to have these 40,000 items just prior to the Korean era, what happened to all the tools that were available at the close of World War II?

Mr. FOGLER. I can comment on that somewhat from the history that I have learned since being part of the Navy Secretariat.

Senator THYE. Yes.

Mr. FOGLER. Certainly a very large percentage of all the tool that were in the hands of the Government were made available to the public and were sold to the public for civilian use. I think possibly Captain Aldridge or one of my associates can give you more information as to what action, and how it was taken, in the Navy to acquire the 40,000 tools.

Senator THYE. Yes; the reason I raised the question was that I wanted to establish for the record whether our policy today is a different policy from the policy pursued immediately after World War II, because at that time it was a shutdown, a disposal, with no inventory, and today you are pursuing a different course; am I right?

Mr. FOGLER. That is correct, sir.

Senator THYE. Because today you are endeavoring to make certain that you do not take the unwise action that will dispose of your inventories and leave you in dire need should another emergency force action.

Mr. FOGLER. That is correct, sir.

Senator THYE. So the policy that you are pursuing now is an orderly current inventory, close supervision, and a modern tool that will receive the power of the first switch that you threw in causing a maximum stepup in the whole production plant?

Mr. FOGLER. That is our objective, sir.

Senator THYE. That is most commendable.

Mr. FOGLER. To go back to my statement, realizing the shortcomings in our reserve, the Navy made efforts to budget funds under industrial mobilization planning to procure a limited quantity of the kinds of tools which we knew might be needed. However, it was not until Korea, fiscal year 1951, that funds were authorized for buying machine tools. Thus, we had a reserve which was numerically fairly large, but it was not properly balanced to meet the current program needs. We were able to accomplish much with this limited reserve but much more could have been accomplished, and accomplished more quickly, if it had

been possible to acquire a limited quantity of key items during the years when the machine-tool industry needed the business.

In general we feel that the machine-tool program of the Navy has been effective. During the years preceding Korea, the Navy followed a policy of putting its tools in a ready-to-use status and these tools were earmarked for specific mobilization production programs.

It is particularly important to note that many of the World War II military production machine tools were still available in the economy at the outset of Korea, but large numbers of them were not immediately available for military production. The "guns and butter" concept of the Korean mobilization policies, permitted, and even encouraged, substantial civilian production, together with increased military production.

When fighting began in Korea, certain production programs were given top priority. The Navy reevaluated the allocation of its tools, and made tools not required for urgent Navy programs available for use by the other services. From June 30, 1950, through March 1953, the Navy withdrew from reserve 40,900 items. Of these approximately 11,500 were made available to the Army and Air Force for their production programs. Industry has on many occasions commended the Navy for the manner in which it handled its reserve tool program. In fact, the machine-tool industry itself received many Navy reserve tools during the Korean build-up. Most of these tools have since been returned to our reserve stock.

New problems have arisen due to advancing technology. Modern military end items require far more heavy, high precision machining than was required by the earlier weapons of World War II and even of the Korean war. In the event of a major war, these vital areas would experience serious deficiencies in machine-tool equipment:

(*a*) Airframes: The airframes of World War II were primarily riveted together from sheet metal parts. The airframes now in production are, on the contrary, primarily made up of large parts machined from heavy plate on large "sculpturing" machines.

Senator THYE. If you do not mind an interruption at that point, too, Mr. Secretary, that is what I had in mind when I said to stop and take a good look at what you needed, because some of that has come since the Korean conflict came to an end. You had to reexamine what you were then proposing to construct and what the tool requirements would be for the new type of structure.

Mr. FOGLER. That is correct, sir.

Senator THYE. And that is what is involved right here in this paragraph.

Mr. FOGLER. Yes.

(*b*) Jet engines: The demand for higher power jet engines requires a large number of big tools for turning, boring, and drilling at a high degree of precision.

(*c*) Steam turbines and reduction gears for ships: Ships for another war must be more powerful and faster. This results in a greatly increased demand for steam turbines and reduction gears. Careful and detailed studies have shown that as of this date, the combined facilities of all manufacturers would fall far short of producing our mobilization needs for these items.

To make modern airframes and jet engines, requires, in large numbers, tools of types which have been developed since Korea. These include skin mills, spar mills, contour mills, and profile mills. For modern ship propulsion, we need large high-precision equipment, often referred to as "elephant tools." These include very large lathes, boring machines, drilling machines, and gear cutters.

A study carried out in the Business and Defense Services Administration of the Department of Commerce indicates that in the event of an all-out emergency much of this load would fall on 12 or 15 firms. In the event of complete mobilization, the known demand for tools will immediately give orders to these companies beyond their capacity to produce within a reasonable length of time. In like manner, the demand for supporting, but equally critical, general types of machine tools will be far beyond the capacity of the remainder of the industry to meet. The greater the damage done by the enemy to our industry, the greater the need for increased production of replacement machine tools.

A further factor which increases the difficulty in getting adequate machine tools for war production is the fact that the automobile industry is moving into much more extensive use of high-performance single-purpose tools. Officials and engineers of the automobile industry have repeatedly emphasized the fact that the tools which are now being installed for automobile production have limited convertibility for war production. The only tools in the plants which will be useful in an emergency will be a limited number of single-purpose tools and the relatively small number of general-purpose tools used in these plants.

These new problems and many, if not all, of the old problems that caused machine-tool shortages during the last two emergencies have been recognized. To the best of our ability, action is being taken to insure a reasonably high degree of readiness. The new machine-tool policies recently formulated by the Office of Defense Mobilization and the Department of Defense are directed to this end.[21] They include one objective which is particularly relevant here—that of assuring us that we will have an adequate industrial mobilization base of machine tools when we need them. Implementation and funding of this objective will provide the machine-tool orders which will do much to maintain the machine-tool industry in vigorous condition necessary to enable it to execute rapidly the tremendous task which will be generated by any mobilization which may be forced upon us.

We know that certain machine tools must be on hand before an emergency. Many of these must be in operation, or ready to go into operation, at the exact time we are forced to mobilize. To this end, the Department of Defense has provided policy guidance to augment the reserve tools we now have with "packages" and "standby lines" of machine tools wherever deficiencies in production capacity occur for selected critical military end items. This is a continuing program. At least once each year the "packages" and "standby lines" on hand will be reviewed for adequacy and for obsolescence that may have developed. New packages of tools and tools for existing packages are to be budgeted by the individual services.

[21] See appendixes 2 and 3, pp. 132, 133.

The Navy recognizes the urgent need for a healthy machine-tool industry ready to furnish the quantities and types of tools needed during an emergency, and is working on a budgetary program with the objectives which I have mentioned.

Mr. Chairman, I am available for questions. Captain Aldridge has a statement now. He will make it now or at your pleasure.

Senator THYE. All right, Captain Aldridge. You may proceed.

STATEMENT OF CAPT. EUGENE T. ALDRIDGE, USN, ASSISTANT CHIEF, OFFICE OF NAVAL MATERIAL, DIRECTOR OF THE PRODUCTION DIVISION

Captain ALDRIDGE. Mr. Chairman, I am Eugene T. Aldridge, Director of the Production Division, Office of Naval Material. Under the Chief of Naval Material, I am responsible for effectuating the policies for production of material throughout the Naval Establishment as directed by the Assistant Secretary of the Navy (Material). My office is the focal point within the Navy for all machine-tool matters.

The military and civilian industrial capacity we have in being must, of course, fill our current readiness needs and also bear the brunt of our initial efforts during any all-out emergency. Here is a brief summary of the status of Navy-owned machine tools:

WHAT WE HAVE

The Navy owns approximately 155,500 machine tools with an acquisition value of $991 million.

WHERE THEY ARE

(*a*) In use (Naval Shore activities, contractors' plants, and Active Reserve plants)—138,300 items, valued at $835 million.

(*b*) Stored on site of its intended mobilization use—3,900 items, valued at $29 million.

(*c*) Stored in central storage—13,350 items, valued at $127 million.

"PACKAGE PLANT" EQUIPMENT

The Navy has a total of 38 "package plant" or package plant programs. These consist of 8,600 machine tools valued at $127 million. By the term "package plant" we mean a complement of Government-owned equipment which is assigned to a specific program and plant, and which, either as an entirety or when combined with equipment owned by the contractor for the plant, will be capable of producing at a specific level a military end item or component. These packages are stored either on the site of their proposed mobilization use or in central Navy warehouses.

NAVY-OWNED MACHINE TOOLS LISTED IN THE CENTRAL DEPARTMENT OF DEFENSE IDLE INVENTORY MAINTAINED BY THE PRODUCTION EQUIPMENT REDISTRIBUTION GROUP (PERG)

The Navy currently has listed 17,600 idle machine tools in the central idle tool list of the Department of Defense. Of these, 8,600 tools are those earmarked for packages.

Since a central list of idle tools was established in September 1951, the Navy's participation has been as follows:

(*a*) Reported to central inventory	33,400
(*b*) Allocated for use of Army, Navy, Air Force, and Defense supporting industry	7,000
(*c*) Deleted from inventory and declared surplus for redistribution or for resale as is or as scrap	8,800
(*d*) Balance of Navy tools remaining in central idle tool inventory as of this date	17,600

STORAGE AND PRESERVATION OF MACHINE TOOLS

In addition to those machine tools which are stored and maintained on the site of their intended mobilization use, the Navy stores reserve machine tools in six central warehouses.

The Navy is well aware of the benefits of dehumidified long-term storage. In fact, it pioneered in developing this technique. At the present time, over 65 percent of our idle reserve machine tools are in dehumidified storage, either in entire buildings which are dehumidified or in dehumidified huts constructed within a large building.

Under policy established by Department of Defense, each service has a continuing program of testing and reviewing its reserves to weed out obsolete tools and to insure that those that are kept are in good operating condition. Before we place used reserve machine tools in extended storage, they are disassembled, cleaned, tested, reconditioned, and preserved.

Senator THYE. Captain, if you do not mind the interruption at this point, these depots are dispersed so that they are not located in such a manner that they might go at one time if some emergency were to strike us?

Captain ALDRIDGE. No, sir. I can list them for you: The Navy Supply Depot at Clearfield, Utah; the Naval Supply Depot at Mechanicsburg, Pa.; Scotia, N. Y.; Stockton Annex in California; South Charleston, W. Va.; and one at Lynn, Mass. So they are rather well dispersed, sir.

Senator THYE. They certainly are. Thank you.

OBSOLESCENCE AND REPLACEMENT OF NAVY-OWNED MACHINE TOOLS

Captain ALDRIDGE. Approximately 60 percent of the Navy-owned machine tools were manufactured during World War II or earlier. This fact is, of course, of major concern to us. The degree of technological improvement of modern machine tools varies very markedly among machine-tool types. Many up-to-date tools outperform by 4, 5, or 6 times their World War II counterpart. Others show less productive increase and only become attractive where high production schedules would make them economically sound. Age alone does not justify the replacement of tools. Many of our older special-purpose tools are still able to satisfy the limited specialized use for which they are needed.

For some time we have been concerned because of the adverse effect that obsolescent tools have on the costs and delivery schedules of our current productive effort, and will have on any all-out mobilization efforts. The magnitude of the Navy holdings of machine tools has dictated a judicious approach to a replacement program.

A sampling of machine tools now in use by the Navy Bureau of Ships indicated that most of their tools are from 11 to 15 years old; and that at current operating levels, it is economically sound to replace many of these tools now. We must, of course, add intelligent consideration of changing trends in military equipment so that each tool replacement follows a business decision based on many economic and planning factors.

We feel very strongly the importance of an enlightened and aggressive policy directed toward the modernization and replacement of obsolescent machine tools and facilities. Such a policy offers us the economic benefits of the high performance of modern tooling and also assists our important machine-tool industry to remain healthy and ready to expand efficiently should mobilization be forced upon us. For these reasons, I take great interest in the Bureau of Ships' replacement study. We have high hopes that this approach can be utilized throughout the Navy. Only with modern up-to-date tools can we expect to produce economically the quantities of military end items needed to maintain our state of readiness and prepare ourselves for any further emergency.

Unless you have questions now, Mr. Chairman, Mr. Alfred J. Weisbecker has prepared a statement of the results of the study to which I referred, and I will be glad to have him report to you at this time.

Senator THYE. Thank you. We will hear Mr. Weisbecker.

You may proceed, Mr. Weisbecker.

STATEMENT OF A. J. WEISBECKER, HEAD OF THE INDUSTRIAL TOOL AND EQUIPMENT BRANCH, BUREAU OF SHIPS, DEPARTMENT OF THE NAVY

Mr. WEISBECKER. Mr. Chairman, I am A. J. Weisbecker, head of the Industrial Tool and Equipment Branch, Bureau of Ships. I am responsible for implementing certain machine-tool policies for the Bureau that originate in Mr. Fogler's office and the Office of Naval Material.

Under directions from the Assistant Chief of the Bureau of Ships for Field Activities, I have conducted a study to determine what can be done to modernize our shore activities.

During my presentation, I shall refer to certain charts. For those who have these yellow-bound folders, the charts are on the left side of the cover. For those who do not have them, I have some enlarged charts.

Would you care to have those large charts shown, Mr. Chairman?

Senator THYE. No. I believe that we all are furnished with separate charts; so you may proceed, and we will try to follow you.

Mr. WEISBECKER. Good.

1. Studies conducted by the Bureau of Ships comparing existing machine tools in our industrial activities with their modern counterparts highlighted the need for a continuing replacement program procedure in order to overcome obsolescence and maintain our industrial establishments on a high level of efficiency. Some of the basic information gained through these studies is as follows:

(*a*) There are approximately $150 million worth of machine tools located in our 12 major industrial activities comprised of 11 naval shipyards and the naval repair facility at San Diego, Calif.

(*b*) Reviewing our actual replacement practice, total expenditures for the replacement of obsolete machine tools in our 12 major industrial activities have averaged $1.5 million or 1 percent annually over the past 3 years. In fiscal year 1955, this figure dropped to approximately $400,000 and in fiscal year 1956, the amount in prospect is closer to $300,000. Should this trend of decreasing available funds continue, we would be confronted with an alarming rate of obsolenscence in our production shops. Maintenance costs would progressively increase with resultant lower productive efficiency and a waste of floor space and skilled manpower.

(*c*) The Advisory Committee on Production Equipment, commonly known as the Vance Committee submitted a report on production capacity to the Director of Defense Mobilization in January 1953.[22] This report estimated that an annual charge of 5 percent of the total valuation of plant equipment is required to maintain the inventory in reasonably modern condition.

(*d*) Progressive industrial management, recognizing the competitive advantage of modern machinery, takes advantage of replacement opportunities by setting aside annually from 8 to 15 percent of their plant equipment value to take care of obsolescence.

(*e*) Were we to adopt a similar policy, we would spend $7.5 million per year in these 12 activities in accordance with the Vance Committee recommendation or a minimum of $12 million annually in line with industry practice.

Mr. STULTS. Is that for the entire Navy, Mr. Weisbecker, or just for the BuShips?

Mr. WEISBECKER. No, sir. That was a sampling of our 12 major industrial activities under the control of the Bureau of Ships.

Mr. STULTS. Did anybody in the Navy extrapolate that to see what it might be for the entire Navy?

Captain ALDRIDGE. We have not extrapolated that, sir. We are carrying on similar studies of other activities, but they have not progressed to the point that the figures could be put together and come out with any estimated results.

Senator THYE. You may proceed.

Mr. WEISBECKER. 2. Technological advances made since the end of World War II brought about many improvements in machine-tool design. The introduction of tungsten carbide tooling, for example, made it possible to machine harder materials and increase production generally from 2 to 5 times. A table published by American Machinist in 1953 showing the increased productive capacity of machine tools built in 1950 over their 1940 counterparts has recently been revised by the National Machine Tool Builders Association to reflect the status as of 1955. Column 2 of the following Bureau of Ships table of computation factors incorporates these increases. The following specific examples reported by our naval shipyards not only confirm the reliability of these factors but, in the case of these two examples, far exceed the indicated averages.

---

[22] See appendix 1, p. 115.

EXHIBIT 4

Replacement program, machine tools (SCC 3411–3418)—Computation factors (new equipment) November 28, 1955

Machine tool	SCC number (1)	Increased production capacity factors (2)	Primary service life (years) (line 17) (3)	Depreciation rate (line 20) (4)
Boring machines (3411):				
Vertical, including vertical turret lathes (under 66 inches)	3411–21	3.5	15	13.0
Vertical (66 to 100 inches)	3411–21	3.5	15	13.0
Vertical (10 to 12 feet) [1]	3411–21	3.5	25	8.0
Vertical (14 to 20 feet) [1]	3411–21	3.5	30	7.0
Vertical (25 to 40 feet) [1]	3411–21	3.5	35	6.0
Horizontal, table type	3411–11	2.0	15	13.0
Horizontal, floor type (6 inches and above) [1]	3411–13	2.0	30	7.0
Jig boring	3411–40	1.2	15	13.0
Broaching (3412)	3412	2.0	15	13.0
Drilling machines (3413):				
Sensitive, bench	3413–10	1.4	17	13.0
Sensitive, floor	3413–20	1.4	17	13.0
Upright	3413–30	1.3	15	13.0
Radial (under 120 inches)	3413–40	1.2	12	11.2
Radial (120 inches and over) [1]	3413–40	1.2	20	8.0
Way type	3413–70	2.0	15	13.0
Gear hobbers (3414):				
Hobbers (under 72 inches)	3414–10	1.8	12	13.0
Hobbers (72 inches and over) [1]	3414–10	1.8	20	9.0
Gear shapers (3414):				
Shapers (under 72 inches)	3414–20	1.6	10	13.3
Shapers (72 inches and over) [1]	3414–20	1.6	20	9.0
Grinding machines (3415):				
External, cylinder (under 48 inches)	3415–10	2.0	12	13.0
External, cylinder (48 inches and over) [1]	3415–10	2.0	20	9.0
Internal, cylinder	3415–20	1.2	10	13.5
Surface, rotary	3415–30	1.6	15	13.0
Surface, reciprocating	3415–40	1.6	15	13.0
Tool and cutter	3415–70	1.3	12	13.0
Bench-floor stand, snagging	3415–80	1.2	15	13.0
Lathes (3416):				
Automatic screw	3416–10	1.3	11	11.3
Bench and floor, light duty	3416–20	1.3	8	11.0
Engine, heavy duty, toolroom (under 40 inches)	3416–30	2.0	12	11.2
Engine, heavy duty (40 to 50 inches) [1]	3416–30	2.0	20	9.0
Engine, heavy duty (50 to 84 inches) [1]	3416–30	2.0	20	9.0
Engine, heavy duty (84 to 120 inches) [1]	3416–30	2.0	25	8.0
Engine, heavy duty (over 120 inches) [1]	3416–30	2.0	30	7.0
Automatic, tracer	3416–34	6.0	11	11.4
Turret, ram type	3416–42	1.4	13	11.1
Turret, saddle type	3416–44	2.0	13	11.2
Milling machines (3417)	3417	1.8	15	13.0
Planer type (120-inch width and larger) [1]	3417–50	2.5	25	7.0
Planer type (7-inch bar and larger) [1]	3417	2.5	30	9.0
Planers (3418):				
Double housing	3418–10	2.5	18	11.8
Double housing (84 inches and larger) [1]	3418–10	2.5	30	9.0
Openside	3418–20	2.5	18	11.8
Openside (84 inches and larger) [1]	3418–20	2.5	30	9.0
Plate edge (30 inches and larger) [1]	3418–30	2.5	30	9.0
Special [1]	3418–90	2.5	30	9.0
Shapers (3419)	3419–10	1.2	12	11.2
Drawcut (47-inch stroke and larger) [1]	3419–14	1.2	30	9.0
Slotters (3419)	3419–17	1.0	12	11.2
Slotter (60-inch stroke and larger) [1]	3419–17	1.0	30	9.0
Miscellaneous machine tools (3419)	3419	1.4	15	13.0
Combination drawcut, boring, and drill [1]	3419–15	2.5	25	8.0

[1] "Elephant" type tools.

(*a*) Steel forging (Material 4340—Brinell 375–380) used for holding anchor chains, known as carpenter stoppers.

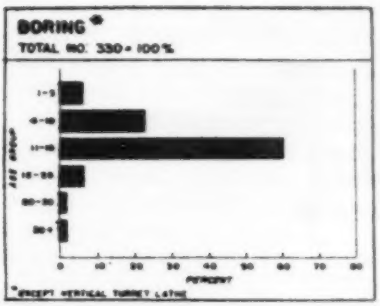
Old method: A milling machine of 1940 vintage equipped with a 10 horsepower motor, removed 4¼ cubic inches of metal and required 40 minutes machining time. Loading and unloading time was 3½ minutes. The overall floor-to-floor time was 43½ minutes.

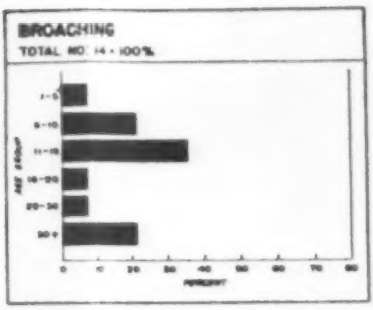
MAJOR MACHINE TOO

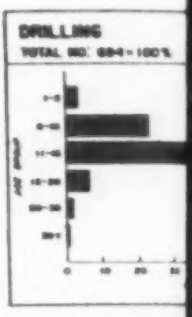
U.S. NAVAL SHIPYARDS & SHIP

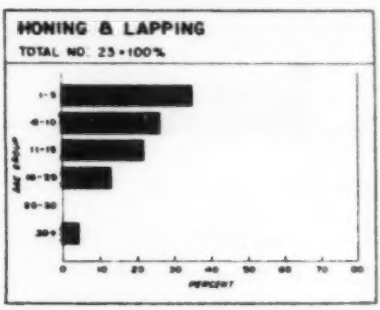
PERCENTAGE DISTRIBU

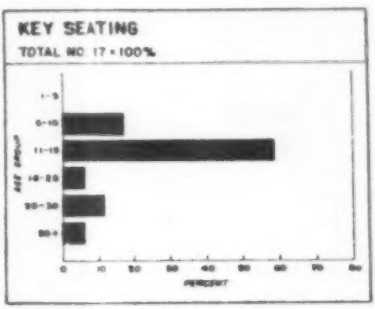
AS OF 1 J

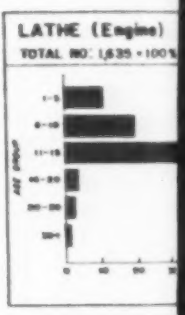


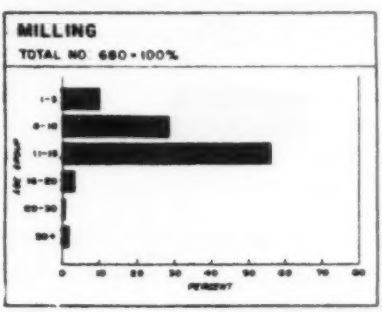


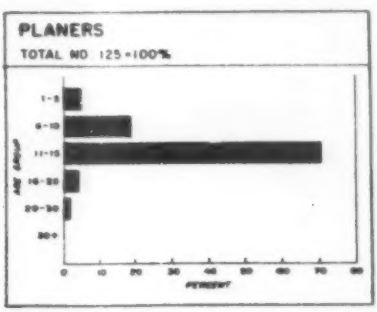


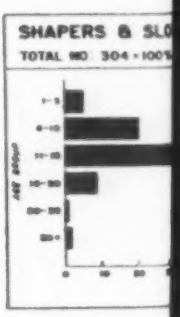


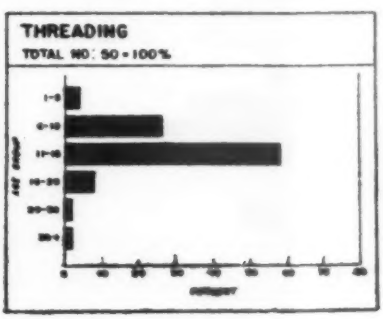












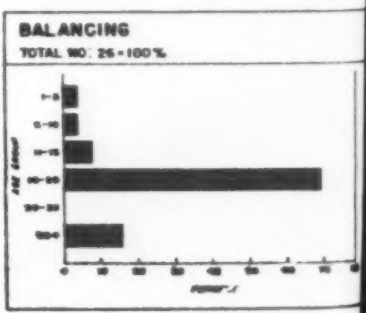


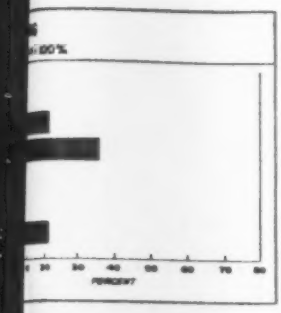
CHART I

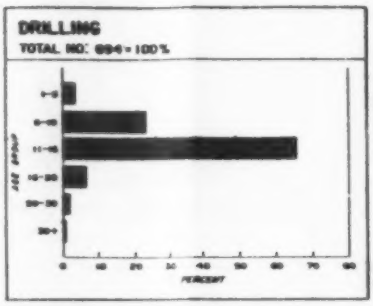
MAJOR MACHINE TOOL ITEMS IN SHOP 31

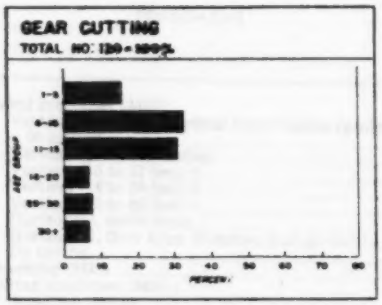
U.S. NAVAL SHIPYARDS & SHIP REPAIR FACILITY, SAN DIEGO

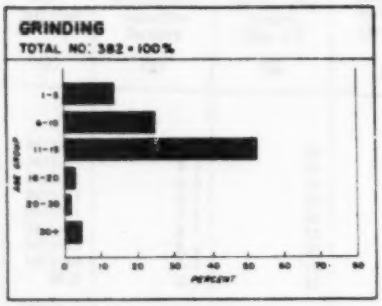
PERCENTAGE DISTRIBUTION BY AGE GROUP

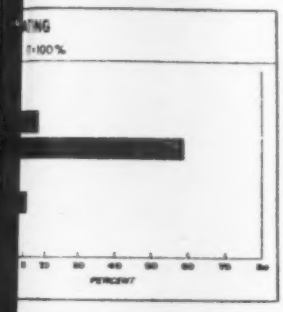
AS OF 1 JULY 1954

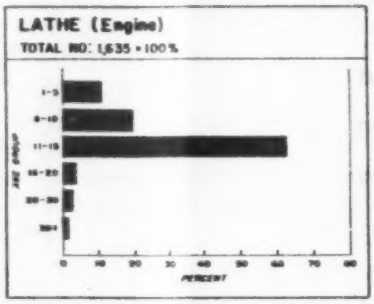


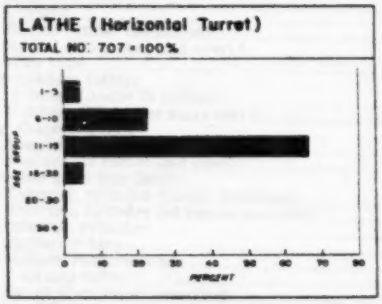


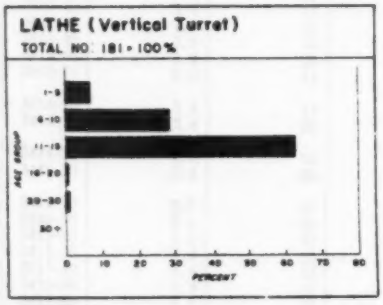


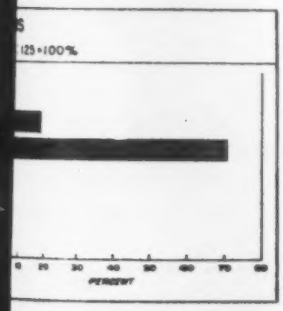


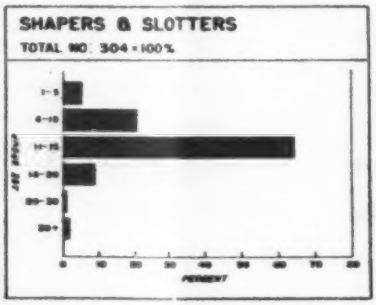


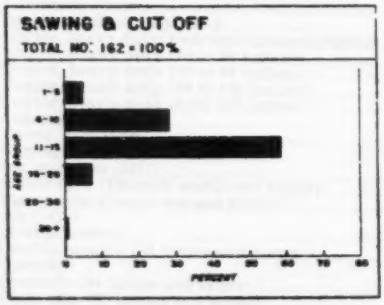


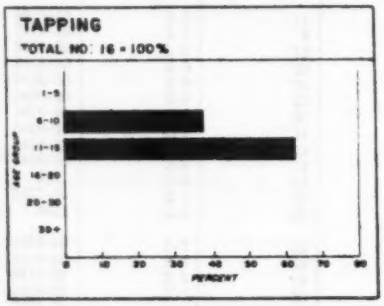


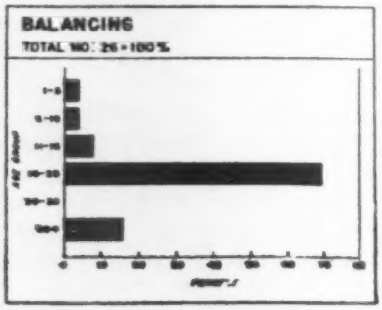


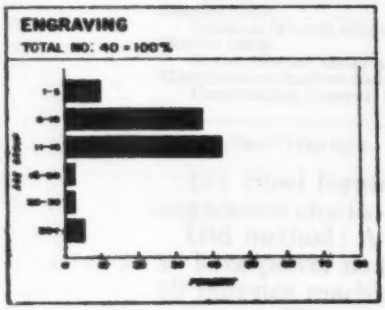


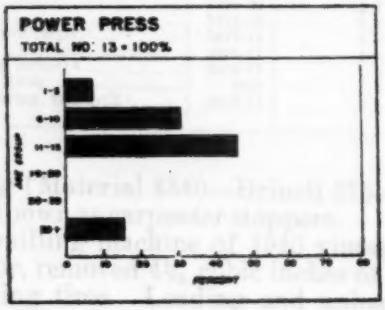












73257 O - 56 (Face p. 89)

New method: A modern milling machine designed for maximum utilization of carbide tooling and equipped with a 50-horsepower motor required 1½ minutes machining time to remove the same amount of metal. The loading and unloading time was the same, 3½ minutes. The overall floor-to-floor time was 5 minutes.

The increased productivity of the new machine was approximately nine times faster than the old machine.

(*b*) Nonstandard K-Monel metal taper pins.

Old method: A turret lathe of 1940 vintage, equipped with a 10 horsepower motor, required a floor-to-floor time of 5 minutes. The surface produced was unsatisfactory and required filing and polishing.

New method: A modern lathe designed for maximum utilization of carbide tooling, equipped with a 15-horsepower motor, required a floor-to-floor time of 1 minute. The surface finish was satisfactory.

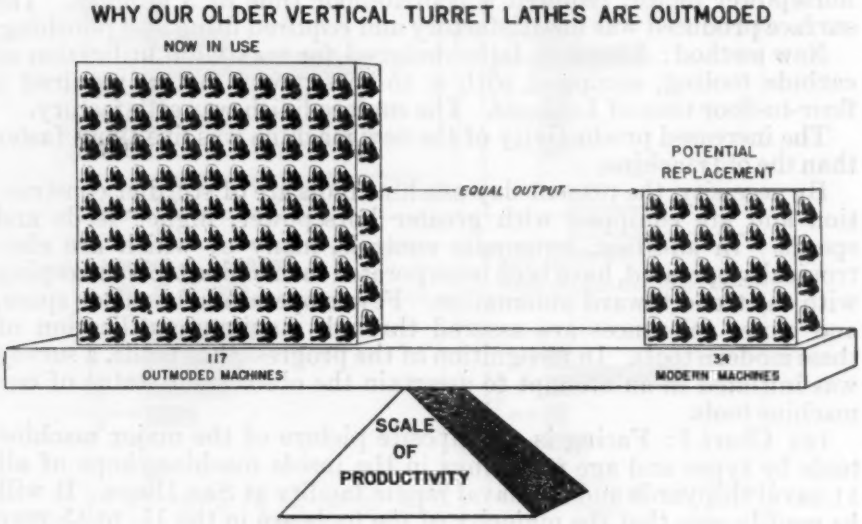
The increased productivity of the new machine was five times faster than the old machine.

By necessity, the present-day machine tools are of sturdier construction and are equipped with greater horsepower, higher feeds and speeds. In addition, automatic controls, many of which are electronically operated, have been incorporated in machine tools in keeping with the trend toward automation. Fewer operators, less floor space, and closer tolerances are assured through maximum utilization of these modern tools. In recognition of the progress thus made, a survey was initiated in an attempt to ascertain the obsolescent status of our machine tools.

(*a*) Chart I: Facing is a composite picture of the major machine tools by types and age groupings in the inside machine shops of all 11 naval shipyards and the naval repair facility at San Diego. It will be readily seen that the majority of the tools are in the 11- to 15-year bracket. This means that most of our tools predate the carbide age, that is, these tools are below the present standard for modern machine-shop practices.

(*b*) Chart II (below): Using the vertical turret lathe as a typical example, we have some 177, 11 to 15 years old in our 12 major industrial activities. A comparison made of these 117 machines with the modern counterpart shows that 34 modern machines have the same productive capacity as the 117 machines now installed in our system. The savings in skilled manpower and floor space possible through replacement with modern machines are obvious.

CHART II

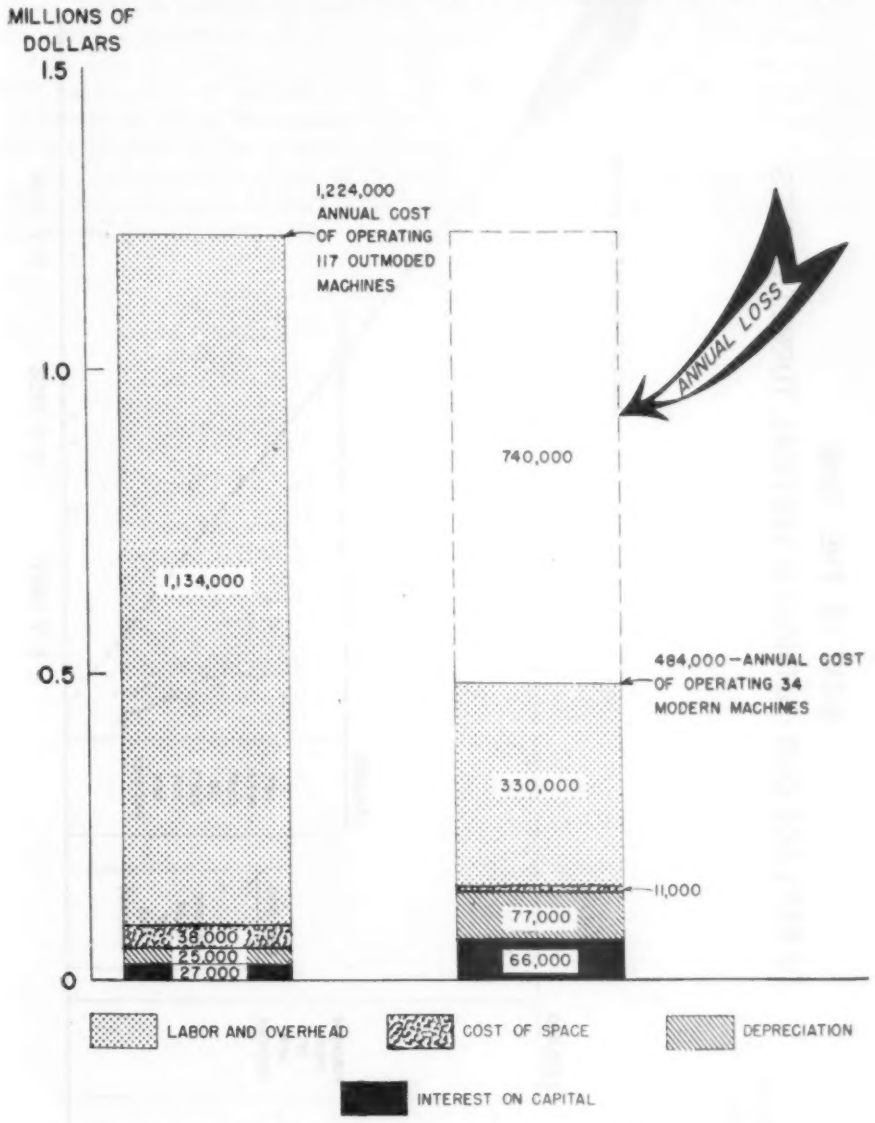


(c) Chart III (below): By way of illustration, this chart emphasizes the penalty we would pay in operating costs under one-shift full operation of the obsolete vertical turret lathes. One million two hundred and twenty-four thousand dollars represents the annual cost of operating 117 outmodeled machines as compared to the operating cost of four hundred and eighty-four thousand dollars for the 34 modern

CHART III

COMPARATIVE COST

TO KEEP OUR OUTMODED VERTICAL TURRET LATHES



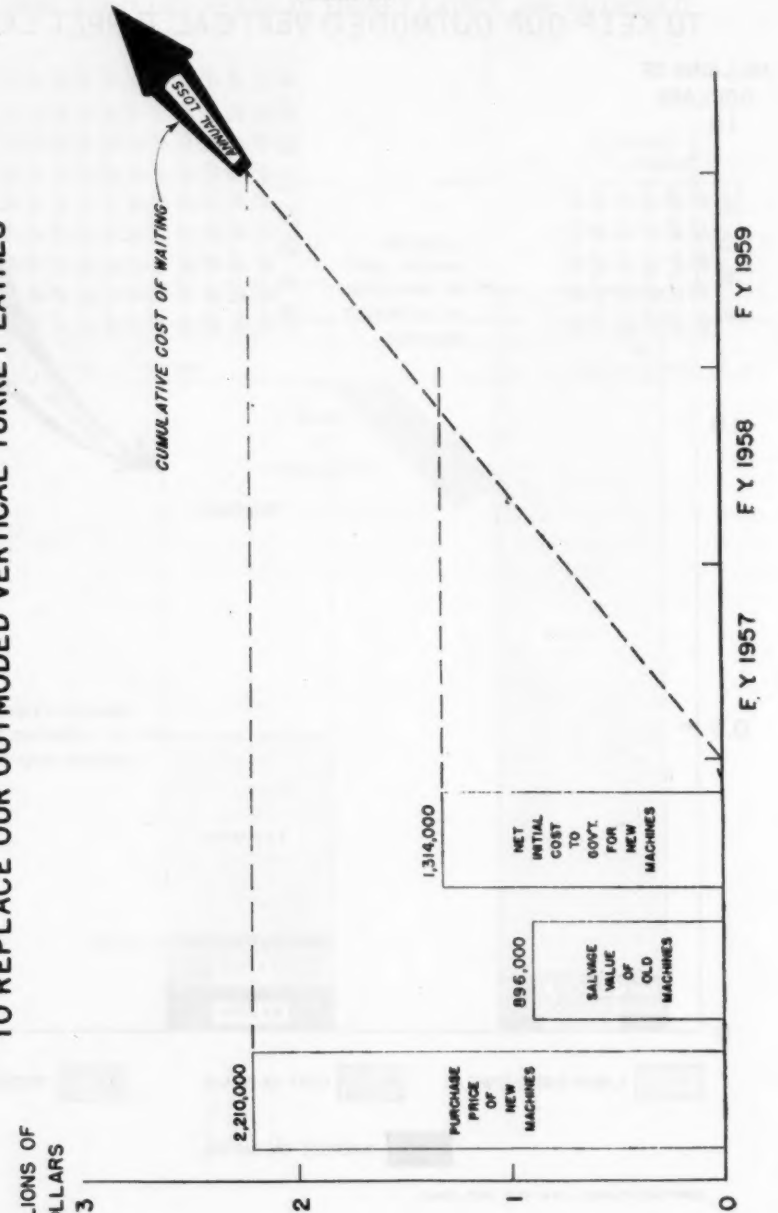
COMPUTATION BASED ON 8-HOUR DAILY USAGE

73257—56——7

machines. In other words, we would stand to be penalized $740,000 each year that we retained the obsolete turret lathes. There would also be a loss of 6,627 square feet of floor space and a waste of 207.5 man-years.

(*d*) Chart IV (below): The annual loss of $740,000 incurred by nonreplacement, accumulated over a 2-year period, equals the net cost of the replacements. Therefore, we would stand to pay for the new equipment whether we replace the obsolete machines or not.

CHART IV



These were some of the considerations that prompted the Bureau in January 1955 to initiate a machine-tool replacement study.

3. The basic procedure introduced by the Machinery and Allied Products Institute 5 years ago and now widely used by industry for determining obsolescence was simplifield and modified to meet our specific requirements. The Bureau of Ships machine-tool replacement study, utilizing the revised procedure and a newly designed analysis sheet, was launched in February 1955 covering the major machine tools used in the inside machine shops (shops 31) of our naval shipyards and the naval repair facility, San Diego, Calif. This represents 72 percent of all machine tools in these activities. Instructions, factors, and guidelines were furnished for developing the data required to determine obsolescence and the advisability of replacement.

(*a*) The activities were requested to make their analysis based on full utilization or mobilization conditions, using 5,000 hours or 2½ shifts as the basis for comparing the potential of the existing equipment with that of the most modern available.

(*b*) The analysis sheet is designed to show comparisons between the operating and capital costs of existing machine tools and those proposed for replacement.

Chart V (below) indicates that under mobilization conditions, the replacement of 7 obsolete vertical turret lathes with 2 modern machines would net a return on investment annually of 63 percent, annual savings of $69,474.81, 12.5 man-years and 392 square feet of floor space.

CHART V

REPLACEMENT PROGRAM (ANALYSIS SHEET)

NAVSHIPS 4914-2 (3-55)

ANALYSIS SHEET NO.

NOTE - USE REVERSE SIDE FOR COMMENTS AND RECOMMENDATIONS AND WHERE ADDITIONAL SPACE IS REQUIRED FOR DESCRIPTION OF GROUPS OF MACHINE TOOLS.

ACTIVITY	SHOP	BUILDING NO.	FISCAL YEAR
Norfolk Naval Shipyard	31	171	1957

OLD EQUIPMENT					NEW EQUIPMENT				
MANUFACTURER					MANUFACTURER				
The Bullard Company					The Bullard Company				
QUANTITY	ITEM				QUANTITY	ITEM			
7	36" Vertical Turret Lathes				2	Vertical Turret Lathes, 36" (50 HP ea.)			
PLANT ACCOUNT NO.	SERIAL NO.	TOTAL ACQUISITION COST	AGE	YRS	MODEL NO.	PRODUCTION INCREASE RATIO	DATE OF PROPOSAL	PROPOSAL NO.	
See Reverse Side		90,269.99	--		75	3.3:1	4/11/55	--	

PRODUCTIVE COST ANALYSIS FOR EQUIVALENT OUTPUT

TOTAL POTENTIAL MACHINE CAPACITY (HRS/YR)	OLD 35,000 HRS	NEW 10,000 HRS
1 DIRECT LABOR	$ 85,400.00	$ 24,400.00
2 FRINGE BENEFITS	$ 14,518.00	$ 4,148.00
3 SHOP EXPENSE ITEMS	$ 10,500.00	$ 3,000.00
4 MAINTENANCE	$ ---	$ ---
5 POWER	$ 6,187.50	$ 3,750.00
6 DOWNTIME	$ ---	$ ---
7 TOOLING	$ ---	$ ---
8 MISC. COSTS	$ ---	$ ---
9 TOTAL PRODUCTIVE COSTS	$ 116,605.50 (A)	$ 35,298.00 (B)
10 NET OPERATING COST FAVORING NEW EQUIPMENT (A MINUS B)	81,307.50	11 FLOOR SPACE 656 SQ FT / 264 SQ FT

CAPITAL COST ANALYSIS NEXT YEAR ONLY

OLD EQUIPMENT			NEW EQUIPMENT		
12 DISPOSAL VALUE (NOW)	$ 36,108.00	XXXXXXX	17 PRIMARY SERVICE LIFE IN YEARS 15 YRS		XXXXXXX
13 DISPOSAL VALUE (NEXT YR	$ 34,763.67	XXXXXXX	18 REQ'D INVESTMENT 109,694.30		XXXXXXX
14 LOSS OF DISPOSAL VALUE (NEXT YR)		$ 1,344.33	19 EST. DISPOSAL VALUE 17,640.90		XXXXXXX
15 INT. ON DISPOSAL VALUE (3-)		1,083.24	20 DEPRECIATION RATE (NEXT YR) 13 %		XXXXXXX
			21 DEPRECIATION (NEXT YR)		$ 14,260.26
16 TOTAL CAPITAL COST (OLD)		$ 2,427.57	22 TOTAL CAPITAL COST (NEW)		$ 14,260.26

23 NET CAPITAL COST FAVORING OLD EQUIPMENT (LINE 22 MINUS 16) $ 11,832.69

24 SAVINGS FROM REPLACEMENT (NEXT YEAR) (LINE 10 MINUS 23) $ 69,474.81

25 % RETURN ON INVESTMENT (LINE 24 DIVIDED BY LINE 18) 63

Savings (Manpower) $\frac{35,000-10,000}{2,000}$ = 12.5 Man Years Savings (Floor Space) = 392 Sq. Ft.

CHART V–A

REPLACEMENT PROGRAM (ANALYSIS SHEET)

OLD MACHINE TOOL DATA

NO.	ITEM	PLT. ACCT. NO.	SERIAL NO.	COST	YEAR BUILT
3	36" Lathes, Vertical Turret-20HP ea.	016317	16999	13,443.19	1940
		016428	18602	13,222.40	1942
3	" " " " 25HP "	016429	18683	13,222.40	1942
		016878	20766	13,191.00	1942
1	" " " " 30HP "	016879	20767	13,191.00	1942
		017039	19524	14,000.00	1944
		017138	19159	10,000.00	1942
				90,269.99	

INVESTMENT (RESULTS OF ANALYSIS)		SAVINGS (NEXT YEAR)	
TOTAL (LINE 18)	$109,694.30	BY REPLACEMENT (LINE 24)	$ 69,474.81
RETURN/YR (LINE 25) 63 %		FLOOR SPACE 392 (SQ. FT.)	MAN YEARS 12.5

COMMENTS AND RECOMMENDATIONS

(1) The acquisition cost of old machines obtained from Plant Account Records.

(2) Adequate records not available for data needed by Lines (4), (6), (7) & (8)

(3) Re: Line (18) Machine (price obtained from dealer) $51,885.00 ea.

Freight (Hartford) 39,500# @ 1.17 hd. 462.15 ea.

Est. Installation Cost 2,500.00 ea.

Total Cost $109,694.30

ANALYSIS BY	TITLE	CODE	DATE
W. P. Smith J.R. Johnstone	Tool & Equipment Specialis Mech. Engineer	366B	4/15/55

APPROVED BY	TITLE	DATE

(*c*) The reverse side of the analysis sheet (chart V–A), provides space for identification of the equipment being replaced, sums up the results of the analysis, and comments and recommendations pertinent to the tools under consideration.

CHART VI

Replacement program (summary): 11 shipyards and 1 repair facility, shop No. 31, fiscal year 1957

New equipment (brief description)	Number	Analysis sheet No.	Total investment line (18)	Total annual savings line (24)	Savings percent of investment line (25)	Direct labor (man-years)	Floor space square feet, line (11)
Duplicating machines	10	1	$46,800	$28,341	60.6	5.3	20
Engine lathes (under 16-inch swing)	94	2	949,500	209,070	22.0	45.3	1,339
Drills, upright	49	3	289,000	59,160	20.5	14.3	191
Lathes, bench	11	4	63,500	12,926	20.4	3.0	17
Contour sawing and filing	15	5	90,000	18,102	20.2	4.5	−18
Honing machines	4	6	73,500	14,562	19.8	3.5	54
Engine lathes (16- to 20-inch swing)	196	7	2,314,300	429,837	18.6	97.0	4,978
Threading machines	13	8	100,000	16,680	16.2	4.3	100
Milling machines, horizontal	48	9	976,000	123,156	12.6	35.1	1,612
Turret lathes, saddle type	55	10	1,550,500	190,574	12.3	50.5	4,542
Engine lathes (20- to 24-inch swing)	95	11	1,605,000	160,471	10.0	46.0	2,752
Turret lathes, vertical (66-inch swing and under)	36	12	2,151,000	200,723	9.3	67.1	3,199
Screw machines, single spindle	12	13	123,000	10,201	8.3	3.2	85
Turret lathes, ram type	104	14	1,634,500	109,149	6.7	39.7	3,059
Milling machines, horizontal, universal	9	15	234,990	15,107	6.4	6.2	308
Milling machines, vertical	10	16	278,400	12,901	4.6	6.6	154
Boring mills, horizontal, floor type	8	17	916,200	42,663	4.6	5.5	845
Shapers and slotters	32	18	508,000	17,129	3.4	11.1	298
Grinders, surface, reciprocating	9	19	177,000	4,480	2.5	3.75	2
Grinders, centerless	4	20	74,000	1,388	1.9	1.5	0
Grinders, surface, rotary	9	21	214,000	763	.35	3.75	70.5
Total	823	----------	14,369,190	1,677,482	11.67	457.1	23,607

(*d*) Chart VI (above). The summary sheet, was designed to list by shops, items, results, and relative replacement advantage of each analysis. Item No. 1, for example, would be the item that indicated the greatest return on the investment. The last item on the summary sheet would be the one that promised the least return. Reviewing the summary sheet or sheets where more than one shop is involved, management has little difficulty when allocating funds in deciding where these funds can best be utilized to provide the maximum return for the money invested.

4. The data submitted by the shipyards covering their replacement requirements for shops 31 in accordance with the BuShips instructions has been reviewed and the following composite results determined:

(*a*) For mobilization requirements (5,000 hours or 2½ shift operation), 2,474 modern machine tools will replace 3,496 existing obsolete machine tools. This investment under mobilization would be amortized in less than 5 years and provide annual savings of 3,090 man-years and 76,480 square feet of floor space.

While it was originally intended and is still considered desirable that our study be based on the mobilization potential of the shipyard, budget limitations, at the time the study was made, restricted the first year's consideration to the replacement of only those tools most commonly used under peacetime conditions.

(*b*) For peacetime requirements, therefore, 2,000 hours or one-shift operation, 823 modern machine tools, representing 30 percent

of the total machines proposed for replacement in the inside machine shops of the 12 major activities will replace 218 obsolete machine tools most currently operated. The investment of $14,369,190 would be amortized in less than 9 years, again on a one-shift operation, and provide annual savings of 457.1 man-years and 23,607 square feet of floor space. Under mobilization, these same tools would be amortized (on a 2½ shift operation) in less than 4 years. While 9 years' amortization under peacetime operations is an across-the-board average, some of these tools in the higher productive brackets would be amortized in less than 2 years. (See chart VI.)

5. Consider the experience during World Wars I and II as indicated in the Vance report, namely, that the machine-tool industry could not adequately supply the demands of machine tools and other equipment which were required in the rapid buildup for war production. In the past, not only have we burdened the industry with high priority emergency orders for replacements of obsolete machine tools at the beginning of each emergency, but in addition, we demand extra machine tools for additional capacity, thus placing an even greater burden on the industry.

Senator THYE. May I interrupt just at this point?

Senator Duff will assume the chairmanship. Secretary Fogler and Captain Aldridge, I want to say that you have given us an excellent report. I think this report assures us that the Navy has certainly proceeded not only as to inventory but also to package requirements in order to ascertain what the needs are, and to plan for the future. I am very happy with this report.

Mr. FOGLER. Thank you.

Senator THYE. Senator Duff will proceed. I have to go over to the special committee. They have already started and are asking for me to come. I am sorry that I have to leave you. I will read the reports of all those that have testified while I was not here.

Senator DUFF (presiding). Go ahead, sir.

Mr. WEISBECKER. 6. Summarizing, it is simple logic to phase our replacement of obsolete machine tools during peacetime, thus deriving the obvious economic benefits of high performance, modern tooling and at the same time assisting our machine-tool industry to remain healthy and prepared to expand rapidly and efficiently should mobilization come. This would help to reduce the tremendous backlogs of machine-tool orders should a shooting war start.

7. Although the foregoing discussion highlights the need for the orderly replacement of obsolete machine tools, the premise could be extended to apply equally as well to the replacement of all major plant account items of industrial shop equipment.

Thank you.

Senator DUFF. Mr. Stults.

Mr. STULTS. Mr. Secretary, you pointed out that the steam-turbine and reduction-gear program was one of our most serious shortcomings. The Vance committee also pointed that out just 3 years ago. The ODM had a program, as I understand it, of about $70 million to round out these facilities.

Do you know the status of that at the present time?

Mr. FOGLER. It was not only an ODM program. It was a program as a result of cooperation between ODM and the Navy and the Busi-

ness and Defense Services Administration of the Department of Commerce.

Mr. STULTS. Yes, sir.

Mr. FOGLER. It is my understanding that the necessary papers have been prepared by the General Services Administration, which would be the procurement agency, but as yet the matter of financing the program has not yet been determined by the Bureau of the Budget.

Mr. STULTS. Then it is your understanding that Congress is not in this next couple of months going to get a request for this specific program?

Mr. FOGLER. That has been my understanding, yes.

Mr. STULTS. Now, Senator Thye has indicated this subcommittee is very pleased with the orderly way in which the Navy has proceeded. As you have heard, questions have been asked of each of the services and of Secretary Pike, why the money given by Congress was not used. As I understand it, you got $14.6 million, and you used every penny of it; is that right?

Mr. FOGLER. Before we had obligated some $2 million of it.

We were advised by the Office of the Secretary of Defense that these funds could be used only for tools that were put in inactive reserve, not for use. Not being familiar with some of the legal facets of this, my own personal interpretation had not been that, and while we did not obligate any of those funds for tools except for standby, I had been under the impression that these funds could be used for tools which might be used for current production, which seems to me is mobilization if they are making the end products which are going to be needed in the event of an outbreak of war.

Mr. STULTS. So your mobilization reserve was of end items being made by the tools that you purchased under that reserve tool program?

Mr. FOGLER. To a degree, yes, sir.

Mr. STULTS. Now, there is just one point.

Incidentally, the committee will make your letter of January 6 a part of the record. (See appendix 10, p. 186.) You did note at that time that the Navy does have some reservations to the premise that the next war will be completely catastrophic, and it will be a 30-day affair.

Mr. FOGLER. Well, I included that in the letter, because, while I have no background for making any assumptions as to whether or not we might have a 30-day war or a 3- or 4-year war, I thought it was from an insurance standpoint very unsafe to assume and make all the preparations on its being a short war. And if we knew that it was to be, certainly we should not spend large sums of money for tools which will make end-item products, ships, for instance, because perhaps even with the tools immediately available, ships might not be delivered for anywhere from 18 months to 3 years, or even longer.

Mr. STULTS. You feel, then, that these modern tools that you get to replace your obsolete or less efficient tools will serve the dual purpose of getting us ready for any sort of emergency——

Mr. FOGLER. That is correct.

Mr. STULTS. Whether it is short run or long run.

Mr. Weisbecker, in his testimony, stated that about $12 million annually is required just to modernize and to replace the tools in these installations that he covered—the 12 major industrial activities, $12 million. Would it be in the nature of twice that or 10 times that for

the entire Navy? Is there any sort of estimate at all that you, Mr. Secretary, or the captain might give?

Mr. FOGLER. I would not able to give that at the present time. I assume that if we can give it for this one, we could provide you with an estimate. But I believe from what the captain has already said, at this time, it would have to be an estimate.

Mr. STULTS. So that you would rather not say whether it would be twice or 10 times or 100 times?

Mr. FOGLER. I just do not have the information to say, and unless the captain wishes to state otherwise, I would prefer that he not say, because he has already made the statement that we have not made any further studies. So it would have to be an estimate, and an estimate made on the spur of the moment here, I believe, would be less than satisfactory.

Mr. STULTS. Then the committee, with Senator Duff's approval, will ask that you submit that, and we will include it in the record.

Senator DUFF. Very well.

(Following is letter dated February 24, 1956, from Mr. W. H. Fogler, Assistant Secretary of the Navy (Material) supplying the requested information:)

DEPARTMENT OF THE NAVY,
OFFICE OF THE SECRETARY,
Washington, February 24, 1956.

Hon. EDWARD J. THYE,
Chairman, Subcommittee on Relations of Business with Government,
Select Committee on Small Business,
United States Senate, Washington, D. C.

MY DEAR SENATOR THYE: At the machine-tool hearings on February 8, 1956, you requested information on the estimated annual funds that would be required to carry out a Navywide machine-tool replacement program based on extrapolation from the Bureau of Ships study.

You will recall that the study indicated:

(*a*) That the Bureau of Ships would require $7.5 million annually if the Vance Committee 5 percent (of total valuation of their machine tools) factor were used; and

(*b*) That the Bureau of Ships would require a minimum of $12 million annually if the machine-tool replacement practice of progressive industrial management were followed (i. e., an 8 to 15 percent replacement factor).

Extrapolating from this, we determine that on a Navywide basis:

(*a*) $49.5 million would be required annually under the Vance Committee recommendations; and

(*b*) A minimum of $79 million would be required annually if the 8 to 15 percent machine-tool replacement factor of progressive industrial management were followed for the whole Navy.

May I take this opportunity to thank you for your kind reception of our statements and the machine-tool replacement study at the hearings. I hope that the information supplied above for inclusion in your record of the hearings will satisfy your requirements. If it does not, please do not hesitate to call on me for any further information needed.

Sincerely yours,

R. H. FOGLER,
Assistant Secretary of the Navy (Material).

Mr. STULTS. However, for the 12 activities that you have made a complete study on, you said it would cost anywhere from $7½ million to $12 million.

In your budget for fiscal 1957, does BuShips get anywhere near that much for those activities to bring them up to snuff?

Mr. FOGLER. The Bureau of Ships' request for machine tools is not adequate to do the job completely that we feel the study has indicated should be done. There is included in the Bureau of Ships' budget the request for money for this purpose throughout the Bureau of Ships' activities.

Mr. STULTS. So that those will be used for the long-lead-time tools for replacing the most obsolete where you can show the best record of savings? I would assume that these are not necessarily one and the same.

Mr. FOGLER. I would prefer that a technical person answer that question rather than for me to try to answer it.

Captain ALDRIDGE. May I, Mr. Secretary?

Mr. FOGLER. Yes.

Captain ALDRIDGE. Those are not necessarily the same tools, sir. The funds that we are discussing at the moment are for replacement and while the decision will be made administratively by the managers of the programs, it would be assumed that they would choose the machines that would give the greatest return in savings.

Mr. STULTS. And at the same time have the newest, best, big, long-lead-time ones also available?

I assume that this is also of consideration, as well as dollar savings?

Captain ALDRIDGE. The funds would have to be used for one purpose or the other, and not for both, sir. The longer lead-time tools, as you indicated earlier, not only need not be necessarily, but perhaps more likely are not, the same tools.

Mr. STULTS. I have no further questions of the Secretary, Senator Duff.

Senator DUFF. Thank you very much.

Who is the next witness?

Mr. STULTS. Mr. James Kelley.

Incidentally, I might also announce that the committee will include Secretary Sharp's letter of January 13 in the record as we have also Secretary Higgins' and Secretary Fogler's. (See appendixes 9 and 9a, p. 185.)

Mr. KELLEY. Are you ready?

Mr. STULTS. Yes.

Mr. KELLEY. Senator, I would like to introduce Mr. Joseph Owens, who is vice president of the association, and general manager of the J. F. Owens Co. in Syracuse, N. Y.; and Mr. H. R. Hansen, who is with the William K. Stamets Co., in Pittsburgh and Cleveland, and president of our association. They are here to help answer any questions you might have.

Senator DUFF. Very well, Mr. Kelley.

Proceed, please, sir, if you will.

STATEMENT OF JAMES C. KELLEY, GENERAL MANAGER, AMERICAN MACHINE TOOL DISTRIBUTORS' ASSOCIATION; ACCOMPANIED BY J. F. OWENS, JR., PARTNER AND GENERAL MANAGER, J. F. OWENS CO., SYRACUSE, N. Y., AND FIRST VICE PRESIDENT, AMERICAN MACHINE TOOL DISTRIBUTORS' ASSOCIATION; H. R. HANSEN,[22a] VICE PRESIDENT OF WILLIAM K. STAMETS CO., PITTSBURGH, PA., AND CLEVELAND, OHIO, AND PRESIDENT, AMERICAN MACHINE TOOL DISTRIBUTORS' ASSOCIATION; AND E. J. SEIFREAT, SEIFREAT-ELSTAD MACHINERY CO., DAYTON, OHIO

Senator DUFF. Mr. Kelley, will you proceed, sir.

Mr. KELLEY. Very well.

My name is James C. Kelley and I am general manager of the American Machine Tool Distributors' Association. This association comprises some 190 independent companies with offices in over 110 cities throughout the United States and Canada. The companies engineer, sell and service new machine tools.

Before coming to the association, I spent several years in the Office of Naval Material advising on machine-tool problems. Thereafter, I served for a time as Deputy Director of the Metalworking Equipment Division of the Business and Defense Services Administration of the Department of Commerce.

In the interest of conserving time and avoiding duplication of the subjects which Mr. Bergstrom has covered, I shall confine my remarks principally to those phases of mobilization planning which concern management of the industrial facilities owned by the Department of Defense. I shall comment briefly on elements of maintenance, modernization, leasing, disposal and procurement as they relate to our mobilization readiness.

I. MODERNIZATION OF THE MOBILIZATION BASE

Mr. Bergstrom has mentioned the Vance plan and the elephant-tool reserve program, and he has also commented on the recently announced policy which calls for the use of reserve machine tools in current production. I am entirely in accord with the views he has expressed. I should like to make some further comments and suggestions on the continuing job of keeping both reserve and active machine tools and production lines in complete readiness for any emergency.

Actually, and as the committee will understand, the country's true mobilization base is much larger and broader than the reserve machine-tool packages, the production lines and the inventories that represent inactive production capacity. At any given time, the mobilization base is the country's entire industrial potential, and nothing could be more plain than the need to keep this potential at a maximum.

In this connection I should like to refer the committee to one of the most important recommendations of the Advisory Committee on Defense Production which prepared the well-known Vance plan.[23] The

---

[22a] See joint statement of Mr. Hanson and Mr. Louis Polk, president, American Machine Tool Distributors' Association, on price escalation in machine-tool procurement which appears in this record as appendix 12, p. 189.

[23] See appendix 1, p. 115.

Committee recommended "that our mobilization capacity should be kept in an up-to-date condition in order that it may be activated quickly should an emergency occur." The Committee also said in speaking of the policy of maintaining the mobilization base: "A determined program to keep production capacity in an up-to-date condition is an indispensable corollary. If the capacity is not so maintained it cannot be an effective substitute." The same general thought is repeated in other parts of the Committee's report.

In other words, the Vance committee emphasized again and again that the country's mobilization base must be kept up-to-date. If it is not kept up-to-date, the country's industrial potential and hence its strategic power will decline both absolutely and relatively in comparison with the other great powers.

From my experience in Government, and more recently in the machine-tool industry, I am convinced that the country has not yet adjusted its thinking and planning in the productive equipment field in such a way as to keep its industrial potential at a maximum. In order to see this clearly we must examine the situation in both industry and Government, and it will appear that neither private industry nor Government has taken full advantage of the modern tools now available. Why haven't they?

A. Modernization in private industry: First, let us consider the position of private industry. Until last year, with the exception of the short periods during World War II and Korea, private industry had difficulty finding justification for increasing its investment in modern machine tools. In particular, the Treasury Department's unrealistic tax depreciation policy made it very difficult to recover the cost of an old machine before a new one was needed, and many businessmen believe they cannot buy a new machine before the old machine has "paid out" or has been written off for tax purposes. The result was that industry generally made old machines "do" even though they were less efficient and more costly to operate than the new modern equipment available.

I grant that such statements may seem inconsistent with reports about the industrial progress which has taken place in the automotive industry and in a limited number of other industries. Here the committee will recall the recent hearings on "automation" held by the Joint Committee on the Economic Report. These hearings and the attendant publicity for "automation" have made an impact in many Government circles. They left the impression that all of American industry is geared with modern, highly productive machine tools. Unfortunately, the facts do not support any such conclusion.

If time were available, I could present many statistics to show that the country's basic industrial plant is in large part obsolete. I believe, however, that the committee will see the seriousness of the situation if it will bear in mind these facts: More than half the machine tools in service in the United States are over 10 years old, and 20 percent are more than 20 years old. Since these old machines were made as the Bureau of Ships so very cleverly and excellently put it this morning, there have been countless developments and improvements even in the least complicated general purpose machines. By conservative estimate, it costs the Nation at least a billion dollars a year to retain obsolete machines in its metalworking industries.

Senator DUFF. Do you think that the reason for this, in the final analysis, is the failure of the Government to allow proper write-offs at the right time?

Mr. KELLEY. With regard to private industry, I think that has had a major effect; yes, sir.

When these facts are mentioned, someone always comes forward with the statement that the situation is getting better and we are worrying about past history. Are we? Before Korea only about 43 percent of all machines were 10 years old or older; today the figure is around 55 percent. These figures reveal an unfortunate trend which will take many years to reverse even with a more enlightened tax depreciation policy.

B. Modernization in Government: Turning to the part of the mobilization base that is made up of Government-owned machine tools, the situation is little better.

Here I think we must begin with the historical fact that Government shipyards and arsenals, and contractors holding Government-owned facilities, have traditionally produced the weapons of war at the outset of an emergency on equipment which was obsolete or near obsolete. In past emergencies, the Government has always started with the tools left over from the last emergency. It has not been customary to buy new machine tools for defense during peacetime. We have waited, unfortunately, until we are in, or just about in, a shooting war.

While there is no accurate statistical means available to show precisely what the Government spent for capital goods between World War II and Korea, it is obvious that the rate of replacement was only an insignificant fraction of what was needed. There is little evidence to show that the situation has changed materially since Korea, and with the Government owning about one-fifth of the Nation's machine tools, the obsolescence of Government-owned machine tools is becoming a serious and urgent problem. We hope the new policy statement and the testimony before this committee indicate a significant change. As this committee knows from its earlier studies of machine-tool shortages, the industry was required during both World War II and Korea to produce enough machines not only to reconvert civilian plants and tool up additional capacity but also to replace large numbers of obsolete Government machines which were inadequate to meet the job at hand. This situation is likely to recur in the event of a new emergency, unless effective measures are taken now to avoid past errors.

While Secretary Folger and other Navy representatives have reviewed a little of the reserve program, I believe the committee will wish to consider the detailed experience of the industrial equipment reserve program after World War II. In spite of many difficulties, the military departments were able to acquire a reserve of machine tools after World War II which was numerically rather large—something over 100,000 items for the 3 services. But let us take a closer look: What was done with these tools? Some of them were put in excellent condition and served a very useful purpose in bridging the gap at the outset of the Korean emergency. But a larger number were allowed to sit where they happened to be, and their rehabilitation when the emergency was actually under way created almost as much of a problem as having no reserve tools at all. Still other machines in

the industrial equipment reserve were utilized during the postwar peacetime years for current production purposes and were partly worn out when the emergency struck. And others remained in reserve all through Korea because they were designed to do World War II jobs which no longer existed.

C. Recommendations: I should now like to examine what has been, and can be done now to modernize the country's industrial plant. As far as private industry is concerned, there have been a few halting steps which we hope will help to reverse the trend of obsolescence.

First, the Treasury Department has liberalized the tax regulations and its practice as to recognition of the obsolescence factor, thereby making more realistic depreciation allowances possible. Second, the Congress made provision in the Internal Revenue Code of 1954 for depreciation according to the sum of the years'-digits and the double declining balance methods, both of which permit more realistic initial writeoffs than the conventional straight-line method. In consequence, the Treasury's tax depreciation policy is no longer so much of an impediment to the replacement of machine tools and other capital equipment.

Senator DUFF. To what extent does it still remain so?

Mr. KELLEY. I beg your pardon, sir?

Senator DUFF. To what extent does that policy still remain a deterrent?

Mr. KELLEY. Our industry has had only a relatively short span of 1 year's experience with this new policy, sir. It is difficult to answer the question without having a little more experience. There are evidences that there should be more rapid writeoffs in some areas, but we have not had enough study to give you a solid answer that could be conclusive at the moment, sir.

One thing is crystal clear: If industry is to increase efficiency, pay fringe benefits, create new wealth, make better products, and at the same time pay a $35 billion defense bill each year, we cannot depend on old machinery to do it. National security, as well as economic health, dictates the need for depreciation allowances that will assure constant replacement of old and obsolete equipment. If the present provisions prove inadequate, they should be liberalized—and quickly.

I might add that if it had not been for the temporary tax amortization program of World War II and Korea, the degree of obsolescence of our machine-tool plant would be even greater than it is now. Not only our defense potential but our peacetime industrial growth as well have been given a tremendous impetus from the increased expansion of facilities which resulted from tax amortization.

Let us now examine what can be done about Government-owned machine tools.

It has often been said that Government is not in business to make a profit. From this it is said to follow that there is no urgency or need for the Government to modernize its facilities. This is fallacious thinking that has been costing the taxpayers millions of dollars. Government's interest in modern equipment lies in economy of production and ability to produce the required weapons in the time needed. These we must have, and talk of Government profits is irrelevant.

It is also often said that the Government can get along without the most productive modern machines and that there is no need to burden

the taxpayers with the cost of modern machine tools when old or less expensive and less productive machines can be made to do. One fundamental these misconceptions ignore is the increasing need for equipment which will hold the precise tolerances demanded in newer weapon production. Many of the obsolete machines in our arsenal today are incapable of meeting these exacting requirements; and they become less effective with each passing year. The investment required to bring about a progressive modernization program is insignificant in terms of our annual defense budget. A relatively small investment in modern machine tools could mean a difference of many months in achieving mobilization production.

Senator DUFF. What do you mean by "relatively small?"

Mr. KELLEY. The ultimate expenditure as we see it, based on what we have been told constitutes the total Government inventory of tools, could run between $400 million and $500 million a year, as against $35 billion for the defense budget.

Mr. STULTS. In the nature of 1 percent, then, perhaps, of our total budget?

Mr. KELLEY. That is the ultimate as we see it at the moment.

Of course, modernization plans for Government tools will differ from those of industry. In general, the two basic categories, inactive reserves and active facilities, will govern the approach.

With regard to reserves, the new Department of Defense policy covering acquisition, retention, and maintenance of reserve equipment, if followed, will do much to correct some of the past deficiencies. The Department's proposals for increased inspection and testing of reserve tools are particularly noteworthy. When these proposals are carried out, there should be no guessing about the capabilities of a reserve machine tool. The proposal for reevaluating reserve capabilities at least once a year is also sound.

We are also pleased to note the new provisions for converting reserve machines to the production of new weapons as the weapons are designed. This is an important change. I think it is very important. As the design of end products changes and new products appear, reserve machines should be rebuilt or altered so that they can manufacture the new products. In other words, we feel that reserve tools must be keyed to the weapons the Government intends to produce.

There is, nevertheless, one particular deficiency in present Defense Department policy which the industry thinks should be remedied. First of all, present policy permits the retention of a machine if it is in such a condition that it is economically feasible and practical to rehabilitate it. The policy therefore tends to the retention of machines that are not ready for the production for which they are being held. But from past experience we know that you cannot depend on machine tools that are only half ready to do a job. They must be ready before they are needed. Machines that are inadequate should be rebuilt or replaced when their inadequacy becomes apparent.

Government-owned machine tools located in active Government industrial installations and contractors' plants present a somewhat different problem from reserve machines located in Government arsenals, standby plants, and warehouses. This problem is very similar to that faced by private industry, and the approach used by private industry will work just as well. In private industry, it is a prime

responsibility of the plant manager to keep abreast of the new machines or processes that might be used in his plant. He is constantly surveying his present equipment and deciding what is most in need of immediate replacement, what is next, and so on, very similar to what the Bureau of Ships has proposed here this morning. Generally, he calls in a local machine-tool distributor to help him with the application engineering and to evaluate the old versus the new. The result is a regular replacement schedule arranged in sequence. Plant managers submit modernization plans regularly to their companies' top management to see how much of the program can be currently undertaken and what must be scheduled for following years. As applied to Government-owned machines in private plants, contractors should be required to formulate this kind of program and present it to the Government on a regular basis.

Our industry can comment on only one program designed expressly for modernization of Government industrial facilities. That is the program you have heard about from the Bureau of Ships this morning.

Mr. STULTS. Why can you comment on only that one?

Mr. KELLEY. It is the only one that has been furnished to us in detail, in order that we might have the basis for evaluation.

Mr. STULTS. You know of nothing similar being done by the Army or the Air Force or the other bureaus of the Navy?

Mr. KELLEY. We understand that the other services are also studying the problem. We have been consulted on them briefly. We, however, feel that their programs have not progressed to the point where they can furnish detailed information to us. Therefore, I feel that we are incapable of giving you an intelligent comment, sir.

The information that has been furnished to us by the Bureau of Ships demonstrates conclusively that the Bureau's thinking is sound and its planning is well organized; the results it will obtain from modernization of facilities will very certainly accrue to the public benefit. We believe that all Government agencies could serve the public interest by devoting a portion of their time and appropriations toward replacing their obsolete facilities with modern equipment along the lines of the program of the Bureau of Ships.

What is needed is a dynamic all-out attack on the problem at all levels in every department.

The Bureau of Ships has made an excellent start. We suggest that the committee follow the progress of this program and we hope other agencies will soon follow its lead.

At this point, I should like to refer to a problem which has undermined Government machine-tool programs in the past and may do so again. I refer to the unfortunate lack of followthrough. Many programs are well conceived, but for want of the proper drive, they tend to fall far short of ultimate completion.

If the Government is to have a worthwhile modernization and replacement program, it must have not only the support of Congress and the executive agencies but there must be close Government-industry cooperation as well. And industry must spend a great deal of time in helping the departments determine what should be replaced, and where the greatest economies can be obtained with the smallest expenditure of money. Our industry continues to stand by to be helpful in any way we can. At present, however, the historical lack of follow-through and drive presents an obstacle to close cooperation between

Government and industry. Many companies want to cooperate in modernization programs, but there is a question in many minds as to whether Government plans ever bear fruit—whether they are not just more paperwork. In the past when modernization plans have been proposed, there has always appeared to be something else more urgent, and for want of drive, sufficient funds have rarely been made available to carry such programs forward to a successful conclusion. Recent testimony would indicate that even the money that is appropriated is not being spent for these purposes.

In the view of the machine-tool industry, there is clear evidence that the expenditure of funds to assure a modern industrial base will return far greater dividends than almost any other expenditures of comparable magnitude. But modernization programs are necessarily long range. They are not something that can be approached on a one-year or one-shot basis; they must be a continuing philosophy of equipment management; this philosophy must motivate all echelons of government. Modernization programs should not be allowed to come off second best in the budgeting process; they should be given a priority position in overall planning and budgeting.

III. PHYSICAL MAINTENANCE

At this point, I should like to make a distinction between the problem of modernization (which involves both replacement and the rebuilding and rehabilitation of semiobsolete machines) and the problem of maintaining modern machines in first-class physical condition.

With regard to physical maintenance of reserves, the military departments have adopted what appear to be sound programs to care for the productive equipment which became idle after Korea. They started out this time with the premise that reserves of machine tools had to be maintained in good condition. Provision was accordingly made before contracts were cut back or completed to care for the tools not needed in current production programs.

As a result of experience gained in handling reserve tools prior to Korea and the retention of a nucleus of trained personnel during the Korean emergency, the three services were well equipped to proceed in an orderly fashion. Reports from various members of this industry and others who have visited military installations being mothballed lead to the conclusion that the services are doing an excellent job of preserving equipment for extended storage.

IV. THE LEASING OF GOVERNMENT-OWNED MACHINE TOOLS

An increasingly important element in the management of the mobilization base is the matter of Government leases of machine tools.

A great many Government-owned machine tools are on lease to private industry for defense production purposes. There are also a number of cases in which reserve tools have been leased to private industry for nondefense purposes.

For several years the machine-tool industry has urged the Government to establish uniform procedures for leasing machine tools for defense purposes and to establish rental rates at the level of rates charged under commercial leases.

73257—56——8

Under present policy, contracting officers determine on a case-by-case basis what machines, if any, should be furnished defense contractors, and on what basis. As might be expected, the lack of uniform policy with regard to leases has led to inequities and discrimination between individual contractors. It has also led to leases at rates far lower than commercial rentals without any corresponding benefit to the Government. This in turn means that some contractors have obtained unjustified competitive advantages over others. It often happens that small-business concerns are the victims of this kind of competitive disadvantage.

On January 14, 1955, the Department of Defense issued instruction 4215.2 covering the rental of Government-owned machine tools. Among other things this instruction provided for increasing rental rates up to 2 percent per month of the acquisition value for newer machines. When this instruction first appeared, it was thought to be a step in the right direction. As matters have turned out, however, there are just too many escape clauses in the instruction. So far as the industry is aware, there have been few, if any, leases made on a 2 percent basis.

The plain fact of the matter is that Government machines are being leased to private companies at substantially less than the going commercial rate. Generally 1 percent of acquisition cost is the usual Government rental per month. But this is much lower than the rental rates charged in the most favorable industrial rental plans available. This has been explained and proved to the Office of Defense Mobilization and other Government agencies, yet to date we have not been able to obtain the acceptance of what is a plain fact.

It is believed that once the various Government agencies understand and accept the rates and principles used in private industrial leasing, they will be in a better position to judge properly what Government rental rates should be. We sincerely hope this point can be resolved quickly. If the Government continues to lease machine tools at the arbitrary and unrealistic rate of 1 percent per month of acquisition cost, it is wasting the taxpayers' dollars besides creating discriminations and improper competitive advantages for certain contractors.

Besides leases of Government machines for defense purposes, there have been leases to industry for commercial purposes. To date, only a limited number of machines have been approved for commercial leasing under the Office of Defense Mobilization policy governing nondefense leases, but increasing pressure to maintain equipment in an installed condition, together with reduced budgets for maintenance, is beginning to produce an increasing number of applications for commercial leases. Here again, there are no uniform criteria to guide the operating agencies.

As the industry sees the picture, present policy regarding commercial leases is based to too great an extent on a few individuals who must weigh each case against unknown standards. In the industry view, definite standards should be established and applied throughout the Government. In particular, uniform rental rates which do not give holders of Government equipment unfair competitive advantages should be established for both defense and nondefense leases.

V. SURPLUS DISPOSAL

The sales of surplus machine tools from the close of Korea to date have been managed much better than at the end of World War II. In this, the concept of establishing reserves before and not after they become surplus has been a contributing factor. In addition, the military departments have sought the counsel of all elements of the machine-tool industry, as well as machine-tool users in deciding what should be sold. The result has been reasonable checks and balances to minimize the economic impact of surplus sales.

In every instance where we have found disposal actions that seemed out of line, the Department of Defense has promptly investigated and resolved the case on a fair basis.

The need here is not for change but to continue the present program.

VI. PROCUREMENT REGULATIONS

Finally, I should like to mention an important, and quite simple, mobilization measure that should be taken. I have in mind the need for the simplification of the procurement forms and regulations relating to machine tools.

During the Korean emergency, the forms and regulations applicable to the purchase of military end-items were used without much discrimination in the purchase of machine tools. This led to a great deal of confusion, especially among the smaller members of the industry.

Most small machine-tool companies had done very little Government business during the depression period 1946–49, and they therefore had no opportunity to become familiar with the complications in Government procurement which grew up in that period. Then in 1950 and 1951 they were suddenly faced with the flood of Government orders scarcely any two of which were alike. Those that happened to be alike had to be read paragraph on paragraph and page on page to determine that they were alike. They may have been appropriate for use in ordering large quantities of aircraft or tanks from large corporations having staffs of procurement experts, but for small machine-tool companies, they raised all sorts of questions which could not be answered by the company's regular selling organizations. In consequence, the owners of many small companies found much of their time taken up with the fine print, controversies over what it meant, and other uncertainties of defense orders.

The single most serious difficulty in this area arose out of the lack of an acceptable escalation clause. Most machine-tool companies felt that they could not take orders a year or more in advance, for machines to be delivered months later, without such a clause in a period when cost increases were inevitable and underway.

Beginning in 1952 the machine-tool industry began discussions with the Defense Department looking toward a simplification of the regulations governing machine-tool procurement. But today, 4 years after the Korean shortages, there has been virtually no simplification of the regulations. Machine tools are still being bought as though they were tanks. One of the Departments has recently insisted upon an escalation clause that would cause a repetition of all the unnecessary Korean difficulties in the event of a new emergency.

In view of the reduced volume of machine-tool procurement, the complexities of the procurement regulations are temporarily being tolerated. But if there were to be a flood of orders comparable to those of 1951, the complexities would again contribute to a machine-tool shortage. The answer lies in the issuance, as a matter of mobilization planning, of simplified procurement regulations applicable to the purchase of machine tools.

Finally, there is one point I wish to mention because of its importance to the distributors' segment of the machine-tool industry. There is evidence that there may be a recurrence of the problem we thought had finally been resolved in World War II, when the War Department questioned the need for distributors in the procurement of machine tools, and seriously considered directives requiring procurement activities and defense contractors to deal directly with manufacturers rather than with distributors.

We think this is an area which will be of particular interest to this committee because nearly all machine-tool manufacturers for reasons of economy and efficiency find it desirable to utilize distributors to market their equipment in some or all areas of the United States and Canada. In fact, many manufacturers, particularly the smaller companies, would find it economically impossible to market their equipment without distributors.

In the industry's traditional working relationship, the distributor is an integral part of the manufacturers' sales organization. He operates as though he were a branch office of the manufacturer he has contracted to represent. In the day-to-day commercial business of the machine-tool industry, this technique has worked successfully and economically for many years.. The distributor is the essential link and liaison between customer and builder in engineering, sales, installation and servicing machine tools.

We have recently been assured by the Defense Department that there is no intention, despite some recent indications to the contrary, to disrupt the traditional relationships of distributors and builders. We stress this point not only because the continuation of these small-business enterprises depends upon a recognition of the distributors' functions, but also because we know, as the Government learned in World War II, that effective procurement of machine tools in an emergency is dependent upon this traditional distribution system.

VII. THE VANCE PLAN

I have now completed what I had planned to say when I came to Washington to testify, but after having listened to the other witnesses, I have one final comment.

My comment has to do with the changes in the original concept of the Vance plan which Dr. Flemming and the Defense Department representatives have mentioned. The question in my mind is whether the changes do not signal a return to the policy which existed before the Vance plan. As I understand it, the services were always free to find funds in their general appropriations with which to buy additional productive capacity, and I recall that when I was working in the Navy Department after World War II, programs of this kind were actually put into operation. But this was not enough, as we

very well learned during Korea. The Vance plan was designed to supplement the regular service programs and fill in a demonstrated deficiency.

Now, as I have said, we may be back where we were before the Vance plan, but I shall have to add that there are two main differences. The first is negative: We may have lost 3 good years in which we could have done much more in building a firm production base. The remedy here is special concentration on production capacity during the next few years. The concentration should begin with such existing programs as the elephant reserve program, the turbine and turbine-gear program, and the other programs with which you are familiar, and which you have heard in testimony here the last 2 days; but it should go beyond those programs. The budgeting for production capacity contemplated under the new policy should be given an extremely high priority so that this time there will be ample appropriations which in turn will be translated into actual expenditures.

On the positive side, the three services now have directives from a very high level of the Government to concentrate upon increased production capacity. The failure to build such capacity before Korea was undoubtedly due in part to a lack of central direction, and it is the industry's hope that this direction has now been provided. As both Mr. Bergstrom and I have already suggested, we feel that this committee could serve a most useful purpose by following the proposed budgeting process very carefully to make sure that it leads to something more than the limited programs for productive capacity which preceded the Vance plan.

CONCLUSION

I greatly appreciate the opportunity to appear before you on problems which so vitally affect the national security. And I should like to say that the industry fully understands and appreciates the contribution to the national security this committee has made, and is making, by its continuing investigations and reports on machine-tool problems. As Mr. Bergstrom has observed, the machine-tool industry is made up very largely of small-business concerns, and it has therefore come more to look to this committee as a major point of contact in its relations with the Government.

I shall now attempt to answer any questions that you may have, sir.[24]

Senator DUFF. You made a very clear statement. I congratulate you on the presentation.

Mr. KELLEY. Thank you, sir.

Mr. STULTS. I think he is also a constituent of yours, Senator. You did not know that when you made the compliment.

Senator DUFF. I would have made it even stronger then.

Mr. KELLEY. Thank you.

Mr. STULTS. One question, Mr. Kelley. Did you have during the period from 1953 to 1956, the impression that the Vance plan was as restrictive as these preceding witnesses from the services seemed to have indicated; that is, that tools could be bought with those dollars only to lie away and be put into mothballs?

---

[24] See appendix 11, p. 189, for subsequent letter from Mr. Kelley relating to the question of depreciation reserves.

Mr. KELLEY. I think you have to look at the Vance plan as a total plan and distinguish between the plan as a total plan from the appropriations requested under the reserve tool and facilities appropriation.

I do not believe that in reading the Vance plan, or any understanding I had of it, the concept of the Vance plan itself was as limited as the appropriation legislation provided.

Mr. STULTS. That appropriation legislation was put in at the instance, was it not, of the military; it was not just some idea that Congress brought up out of the air?

Mr. KELLEY. That is my understanding, sir.

Senator DUFF. Senator Saltonstall, we are glad to have you here.

Mr. STULTS. I think Mr. Foulke has some questions to ask the witness.

Senator DUFF. Proceed.

Mr. FOULKE. Mr. Kelley, I wonder whether you or your colleagues could give us a rough idea of what the depreciation rate, that is, percentage, is for private industry in keeping their machine tools modern?

Mr. KELLEY. I think that the testimony of Mr. Weisbecker answered that question, that it varies, depending on the type of industry and particular situations involved, in the neighborhood of 8 to 15 percent.

Do you support that?

Mr. OWENS. Yes.

Mr. HANSEN. I think that is reasonably correct.

Mr. STULTS. So that 8 to 15 percent of our machines that we have in our Government reserve, their value, should be replaced each year to keep the machine-tool inventory fully modern and up to date?

Mr. KELLEY. Yes.

There is one point that I think you have to keep in mind here, regarding the estimate of the total ultimate cost that this program would involve. As we see it, I think you should carefully analyze precisely what you are going to accomplish. I think the approach that the Bureau of Ships has taken is excellent, because what they are doing is crawling before they are walking. I think that the ultimate appropriations will depend on the extent and rapidity with which you can study and analyze specific needs, instead of using a wide-brush approach without any specific analysis of what you want.

Mr. STULTS. Do you think that the Bureau of Ships' approach, however, may leave unanswered the problem of meeting future needs for weapons that perhaps supervisors of tool rooms down at the activity level have no concept of?

Mr. KELLEY. I think that there are two facets of the thing, and they proceed concurrently. One is the analysis of the needs for the future as new weapons are designed, and presumably under the new policy concepts, we are going to constantly evaluate our reserves and our existing facilities as they relate to the weapons needed now and in the future. The replacement works concurrently with that.

Oftentimes you will replace the old equipment with equipment that is not the same as the item you are replacing, but rather with something that is needed above and beyond the current needs.

Mr. STULTS. So there has to be good internal communication between your Bureau of Ships' activities, let us say, at San Diego and your top strategic research people, and National Security Council determinations?

Mr. KELLEY. Yes, sir.

Mr. STULTS. Is that all?

Mr. FOULKE. One final question.

Mr. Kelley, do you have any views or recommendations as to service budgeting procedures relating to this problem? Specifically, should money be set aside in each department for a replacement program in order not to compete out of an overall pot against, say, an aircraft carrier or a B–52?

Mr. KELLEY. That question is one which I do not think the industry, as an industry, has views on. I think that the prime consideration is that there must be continuous drive and carrythrough. Whether you budget for it as a part of the overall departmental appropriation, identified as a separate item, is of little significance, except that it must be emphasized as a philosophy of management rather than coming out second best or presented as a second priority item in the budgeting process. I think it is an integral part of any budgeting process. As a personal opinion, I believe that budgeting through the individual departments is a much more sound approach, and I am pleased to see the change in the Department's philosophy on that score.

Mr. STULTS. Speaking for the industry, will you folks support the military services and the departments when they come up to Congress and ask for funds which will not result in end items but tooling?

Mr. KELLEY. To the extent that we can support them, we will give them 100 percent support, sir.

We start with the support in the original analysis as it is now, right at the shipyard, and at the contractor's plants, and we will carry that support as far as we can.

Mr. STULTS. I ask that question because I think it is very often easier to justify the appropriation of X millions for an end item, that "we are turning out 1 B–47 or 1 B–52, or 1 aircraft carrier." It is a lot tougher to have a nebulous concept that, "we are tooling up a line that in the case of emergency can turn out a B–52 at some remote time in the future."

Mr. KELLEY. I think we ought to get away from the philosophy that this is a nebulous concept. I think that this is a very immediate and a very urgent concept that has to be kept in mind concurrently with the end items.

It is the beginning, as Mr. Bergstrom announced in his testimony, of any mobilization program and if we are not ready at the beginning, we just are not going to fight the war.

Mr. STULTS. Mr. Bergstrom mentioned the problem of imports of machine tools. Has your distributors' organization taken a position on that?

Mr. KELLEY. No, sir; I think Mr. Bergstrom has stated the industry's position.

Mr. STULTS. On foreign tools, are there distributors that fulfill the same purposes that you folks do for American-built tools?

Mr. KELLEY. Yes.

Mr. STULTS. Thank you.

Senator DUFF. No more questions?

Senator Saltonstall?

Senator SALTONSTALL. No.

Senator DUFF. Thank you, gentlemen.

(Whereupon, at 12:15 p. m., the subcommittee adjourned.)

APPENDIXES

APPENDIX 1

PRODUCTION CAPACITY: A MILITARY RESERVE

A report to the Director of Defense Mobilization by the Advisory Committee on Production Equipment, January 1953

LETTER OF TRANSMITTAL

JANUARY 12, 1953.

Hon. HENRY H. FOWLER,
Director, Office of Defense Mobilization

DEAR MR. FOWLER: Your Advisory Committee on Production Equipment submits this final report on the results of its studies.

The basic question before us has been how best to fill the gap between existing production capacities and those which would be needed to meet end-item requirements in the event of full mobilization. We believe that in answering this question we have also supplied the best available answers to the more specific problems we considered relating to the production equipment industry itself.

We have arrived at the conviction that the best interests of the Nation will be served by substituting, to the greatest extent practicable, additional production facilities for stockpiles of military end items.

We note the action taken by you and by the Secretary of Defense, in including in the Secretary's budget for fiscal year 1954 funds to begin procuring special and long lead-time production equipment. This provision is in accord wtih the philosophy we have evolved.

We wish to express our pleasure in having had the opportunity to make this inquiry.

Respectfully,

HAROLD S. VANCE,
Chairman, Advisory Committee on Production Equipment.
CLAY P. BEDFORD,
W. H. P. BLANDY,
MANLY FLEISCHMANN,
LEROY LUTES,
LEWIS L. STRAUSS,
K. B. WOLFE,
THOS. J. CRAVEN,
Executive Secretary.

I. SUMMARY

The Advisory Committee on Production Equipment is convinced that capacity to produce is, in fact, a military reserve of the highest order. We propose, therefore, that the policy of the Government, in preparing for a mobilization period, be to substitute, to the greatest extent practicable, production capacity for the stockpiling of military end items. We recognize that in most cases total substitution will not be possible.

To insure the effective application of this policy, we recommend—

That the Department of Defense be required immediately to redouble its efforts to complete a statement of phased mobilization end-item requirements that is within the range of the known resources of the country, and thereafter continually review and revise these requirements as necessary.

That the additional production facilities needed to carry out the proposed policy be created without delay.

That production facilities for mobilization be maintained in an up-to-date condition, ready for rapid activation in case of emergency.

That where deficiencies exist in capacity to produce heavy production equipment, the Government take every means at its disposal to stimulate creation of the needed capacity by private industry, and if these efforts fail because the capacity needed is found to be commercially nonsupportable, the Government itself create and maintain this capacity.

That the Department of Defense set up specific procedures, and other executive agencies take whatever action is necessary, to comply with this policy.

That the Congress be requested to take whatever action is needed to confirm and support this policy.

The policy we propose and the recommendations we make in support of it are in some respects a new approach to the task of maintaining a strong national defense over an extended period of time. We feel very strongly that the importance, to say nothing of the economy, of substituting production capacity for stockpiles of military end items must be recognized by the military departments, the civilian planning agencies, and the Congress. Only when this policy is fully accepted and applied to our mobilization efforts shall we obtain the highest practicable degree of preparedness that defense appropriations can provide.

II. TOWARD MOBILIZATION READINESS

Establishment of the Advisory Committe on Production Equipment on May 16, 1952, grew out of the fact that in the Second World War and in the mobilization that followed the Communist aggression in Korea, shortages of machine tools and other production equipment proved to be serious obstacles to rapid buildup of equipped forces-in-being.

The outbreak of a new war probably will not allow this country the necessary period of time in which to expand its production equipment industries and tool up its military production plants, such as it enjoyed in the First and Second World Wars. A real degree of national security, then, requires the establishment, prior to a theoretical M-day, of a substantial measure of industrial capacity to produce the munitions and implements of war.

Accordingly, we were directed "to review Federal policies and programs with respect to machine tools and production equipment and make recommendations to the Director (of Defense Mobilization) concerning the establishment of such policies and programs as may be required in order to assure (*a*) the availability of machine tools and production equipment to meet defense production requirements; (*b*) the maintenance of adequate capacity to produce machine tools and production equipment as part of the mobilization base; and (*c*) the maintenance of standby machine tools and production equipment, including methods of modernization, rotation or disposition of obsolete tools and equipment, to meet full mobilization requirements."

Objective—National security

We have sought as our prime objective an increased measure of national security. We have investigated the machine-tool and production-equipment phases of industrial preparedness programs to meet both current and full mobilization requirements. We have sought to determine what remains to be done about machine tools and production equipment in order to shorten the time needed to reach the highest practicable degree of national security and reduce the cost of maintaining that level of security over a long span of years.

While we have placed greatest emphasis on national security, we have not overlooked the tremendous importance of the economic aspects of preparedness. Practical limitations exist on the extent to which the productive resources of the Nation can be devoted to the security objective, particularly in the absence of an all-out war. The challenge, as we see it, is to obtain the greatest degree of national security with the highest degree of economy.

Our study concerned primarily the machine tools and production equipment needed to meet defense production requirements and those segments of industry which produce such equipment. Our recommendations are directed principally to those particular segments of industry. Despite this limited field, the benefits of the recommendations should be reflected in the health of the production equipment industries as a whole.

Initially, we sought to ascertain the mobilization requirements for so-called military hard goods, since they are the chief objective of preparedness measures. The next step would have been to determine the extent to which mobilization

production capabilities of present equipment and facilities could meet the requirements. Then, having measured the gap between capabilities and requirements, we could determine to what extent the gap could be bridged by establishing additional production equipment[1] and facilities in advance of mobilization. The alternative would be the production and accumulation, prior to a mobilization period, of substantial military end-item reserves.

A major obstacle encountered

Some difficulties were foreseen in this approach, but one major obstacle appeared at an early stage of the inquiry—the lack of a statement of military end-item requirements within the capabilities of the national economy, which could serve as the basis for specific industrial preparedness programs.

Crucial decisions affecting the rounding-out of the mobilization base of production equipment and facilities still are to be made. We felt that our inquiry and report should not be delayed until a realistic statement of end-item mobilization requirements had become available; consequently a new approach was necessary. Obviously this new approach had to be directed toward a statement of the problem and of our recommendations in general rather than specific terms.

A proposed new policy

From the standpoint of production capacity, the long-range preparedness program of the United States is directed toward two distinct and identifiable objectives. The first is adequate weapons and equipment for armed forces in being substantially above any peacetime level previously maintained. The second is an industrial system capable of supporting with adequate weapons and equipment a rapid expansion of military forces, including those of our allies, and expanded combat operations if a full-scale war is forced upon us.

At the time of the Communist aggression in Korea, the United States Armed Forces and production of weapons were at low levels. The most urgent problem facing the Nation was to expand those forces and multiply the output of necessary arms and equipment. In the defense production program, therefore, the highest priority was placed on meeting current military needs; only second importance was given the expansion of production capacity as a readiness measure for a possible full mobilization. There can be no argument with that decision in light of the emergency we faced and the limited resources of materials and defense production facilities that were available.

But now that forces in being and production of weapons have been brought up to substantial levels, the emphasis should be shifted to completing the production capacity needed as a base for full mobilization.

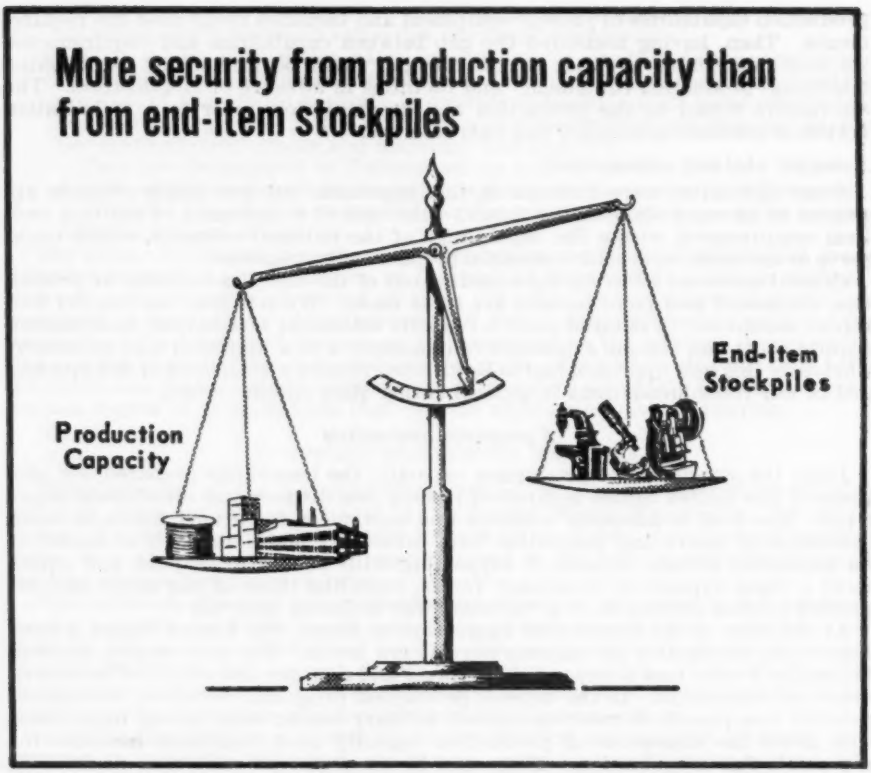
The basic assumption we have accepted is that the Nation must maintain a high level of military preparedness over a period of years—a wholly new concept in our history. To make acceptable and supportable a mobilization program based on this assumption, military preparedness must be attained with maximum economy and with a minimum drain on the Nation's resources.

Maximum security can be achieved with maximum economy by maintaining munitions production plants in a high degree of readiness, capable of rapid expansion of output in event of war, and relying upon such readiness as a partial substitute for stockpiling of reserves of munitions. Therefore, production capacity should be substituted for the stockpiling of military end items, to the greatest extent practicable.

If an adequate defense position must be maintained over an extended period of time, as now seems to be the case, and if this is to be done without prohibitive cost and drain on the Nation's resources, a larger capacity to produce military end items must be created and maintained in such condition that it can be quickly expanded in the event of an emergency. This capacity should include not only production equipment but adequate raw material processing equipment to produce items peculiarly military in character, which have little civilian use.

In most programs the initial cost of facilities is small compared to the cost of producing end items for the stockpile. For example, in the case of certain ammunition components, the cost of facilities is equivalent to the cost of full production for only about 6 weeks. Moreover, most facilities are not subject to 100 percent

[1] The term "production equipment" is used here and throughout the rest of this report to include machine tools, in the technical sense of metal-cutting machinery, and all metal-forming machines and related production equipment. The term "machine tools" hereafter is used in the technical sense.



obsolescence at any time, as are end items, and the cost of modernizing facilities to produce improved end items is only a fraction of the expense of modernizing stockpiles of end items by scrapping and replacing obsolete models. In many cases the recovery and reuse of materials from obsolete end items is more costly than the original cost of the materials.

Key factors to consider

Current production schedules are designed to provide military end items for several distinct purposes. First, to equip the forces in being; second, to provide these planned forces in being with operational reserves to meet normal attrition, Korean losses, and maintain supply levels; and third, to accumulate reserves to equip expanded forces and to support expanded combat operations during the initial stages of a full mobilization, when requirements will exceed mobilization production capabilities. The third category of end items, usually called a mobilization reserve, might be termed a production deficiency reserve because it is designed to meet production deficiencies during the initial stages of a mobilization period.

Time.—The extent of this production deficiency for which reserves must be accumulated prior to a theoretical mobilization depends largely on the time factor—on how long it would take before production from present facilities, plus convertible civilian facilities, plus additional facilities constructed after the mobilization begins, could meet the full end-item requirements.

Many current military programs contemplate creating additional production capacity after the beginning of a mobilization period to meet full wartime requirements. The time required to establish those additional facilities and obtain volume production from them ranges from a few months in some programs to as much as several years in others. It is this time lag in the creation of additional capacities that is responsible for the inclusion of large mobilization reserves in the present planning.

The real problem, then, is the extent to which the contemplated additional facilities should be established prior to a theoretical M-day. In determining

the proper balance to be established between end-item reserves and production facilities, the obsolescence and cost factors also must be considered.

Obsolescence.—From the standpoint of national preparedness, the obsolescence of military end items is far more important than the cost of obsolescence itself, although obsolescence is a strong contributory element to cost. The loss of military usefulness of end items through obsolescence is of primary concern. Reliance upon obsolete weapons could very well spell defeat in an all-out war. In weighing the substitution of production capacity for reserves of military end items, it should be considered that improvements in design do not affect production facilities in the same degree as they do stockpiles of end items. Thus, weapons and equipment produced after the beginning of a mobilization will be more modern than the reserves for which production capacity could be substituted. These reserves will at best be several years old and therefore will have lost some degree of military utility.

Cost.—The first thing to consider in the matter of cost is the fact that end items are more seriously affected by obsolescence than are the facilities that produce them. When an inventory of 5,000 tanks becomes totally obsolete, it means a loss of at least $1 billion, but the cost of keeping the tank plant facilities up to date would be a small fraction of that amount. Another consideration is the fact that the original cost of facilities is small compared to the cost of producing the end items on a large scale. There is, therefore, a tremendous opportunity for economy which should be exploited in our mobilization effort.

But the substitution of production capabilities for end item reserves is not sufficient of itself. If the policy is to be effective the reserve production capacity created must be kept up to date and in ready working order. If it is not so maintained the measure of security that is sought would be lost.

Mobilization requirements of the military services reflect the possibility of enemy action against this country and consequent losses of end-item reserves. If the proposed policy is adopted and applied to all mobilization programs, the services must also have sufficient latitude, in calculating the size of production capacity reserves, to take into account the possibility of partial destruction of those facilities by the enemy.

Consideration of the problem of reserves versus production capacity clearly leads to the conclusion that relying on the creating and maintaining of ample production capacity before a mobilization becomes necessary is not only less costly and more practical than depending chiefly on reserves of military material, it also represents a greater contribution to national security in a long-term program of preparedness.

Enforcing the new policy

The policy formally presented here has already received recognition and acceptance in principle, as a result of our interim report, submitted September 12, 1952. The acceptance thus gained, however, does not constitute assurance of effective application of the policy to the Nation's mobilization programs. To obtain that effectiveness some immediate and concrete measures must be taken. These measures are specified in the following recommendations which we urge be given serious consideration.

Realistic mobilization requirements

In order that adequate additional production capacity may be built before a theoretical M–day, both civilian and military agencies must immediately calculate and keep up to date estimates of phased mobilization requirements that are within national capabilities.

The question of how much production capacity is needed to provide a sound base for mobilization can only be decided in relation to a realistic evaluation of the military requirements—the guns, the aircraft, the ammunition, and other hard goods—for a full mobilization. In general, the statements of requirements for full mobilization currently being used as the goals for military production planning, both for production capacity and end-item reserves, are not within national capabilities. In fact, they call for greater quantities of military hard goods than the supplies of materials, and the manpower and production capacity of the Nation can possibly support. Under these circumstances, no detailed recommendations can be made as to how much extra production capacity should be provided, nor can such recommendations ever become valid until the statement of requirements becomes valid.

New production capacity

The required production capacity should be created at the fastest practicable rate once the phased end-item requirements for mobilization have been established.

The ideal situation at the beginning of a mobilization period would be to have production capacity in being and ready to be activated quickly, plus enough reserves of end items to meet all needs until full production could be reached. Such industrial preparedness would provide maximum security and would insure that the operational activities of the military services would not be slowed down or delayed by the lack of modern, up-to-date weapons and equipment. Having the production capacity in readiness on a theoretical M-day would save time, reduce or eliminate the need for carrying large mobilization reserves of end items subject to obsolescence, and effect a substantial saving to the Nation.

The economy aspect of this policy is striking. As an example, it is estimated that about $500 million expended for long lead-time items of production equipment in the Air Force production acceleration insurance program would increase the mobilization capability for the production of aircraft by about $18 billion during the first 2 years alone, if the production equipment is actually acquired prior to the mobilization period. This increased production capability would substantially reduce the mobilization reserves that would otherwise have to be accumulated. The savings in required outlay of funds prior to a mobilization is in the ratio of 36 to 1.

In the case of a certain ordnance item, there is a gap of about 50 percent between stated requirements and production capabilities in the first 3 years of mobilization. Yet, an expenditure equal to the cost of producing only 150 of these items in a program calling for the eventual production of thousands, would provide, in advance of a mobilization period, the long lead-time and hard-to-produce production equipment needed to establish production facilities capable of meeting the maximum rate of mobilization requirements.

Keeping capacity up to date

When the policy of creating substitute production capacity prior to a mobilization period is adopted, that capacity should be kept in an up-to-date condition in order that it may be activated quickly should an emergency arise.

A determined program to keep production capacity in up-to-date condition is an indispensable corollary of the policy of substitution. If the capacity is not so maintained it cannot be an effective substitute.

The enormous potential of the United States for turning out the weapons and implements of war acts as perhaps the greatest single deterrent to would-be aggressors. The Nation must not permit recurrence of the mistake made after the First and Second World Wars of letting its industrial machine for mobilization deteriorate or be liquidated. The billions of dollars that the Government has invested in machine tools and other metalworking production equipment constitute one of our principal military assets. The fact that the Nation realizes today the mistake it has twice made, does not insure that it will not again fall into the same error or into an error even more disastrous. We cannot stress too strongly the necessity of keeping the United States industrial machine unimpaired of keeping production equipment modernized and in a state of readiness. This country must avoid any national policy that would impair military end-item production lines.

The need for constant appraisal of the production capacity that we think should be created as a partial substitute for military end-item accumulations might be illustrated by the fact that outmoded production equipment and processes are still being used for some important military items, such as rifles and certain types of ammunition. Such facilities must be retooled in order to reduce costs and speed up production rates.

The best available estimates indicate that the annual cost of maintaining production capacity in the form of standby plants or reserves of production equipment is a small fraction of the original cost of such facilities and an even smaller fraction of the cost of building up and maintaining the reserves of military end-items that would otherwise be necessary.

As a corollary of the policy of modernizing the production equipment in its possession, the Government should carefully avoid any policy leading to forced liquidation of that equipment in competition with the normal production of the production-equipment industry. Government actions along those lines have had disastrous effects on this industry in the past.

The Government owns about 20 percent of the total United States inventory of machine tools and other metalworking production equipment. The management of this inventory obviously has a tremendous bearing on the financial condition of the production-equipment industry and could affect the industry even to the point of jeopardizing its existence.

At the close of the second World War the Government, for a time, followed the policy of liquidating surplus production equipment. The harmful effects of this policy were many and obvious. First, it flooded the market with the result that many units of the machine-tool industry were forced out of business. In addition to the substantial financial losses incurred by the Government and by the industry, the Nation suffered a tremendous loss in capacity to produce production equipment. The policy had the further effect of retarding the normal development of new and more modern machines and the adoption of new production techniques—factors which would have contributed toward an up-to-date mobilization base from which to meet a national emergency such as the Communist aggression in Korea.

New budget procedures needed

New budget procedures should be devised as a practical measure to implement the basic policy of substituting production capacity for reserves of military end items, to the greatest extent practicable.

Under present procedure the budgets of the military services and the Department of Defense for a given year include funds to procure military end items to meet operational requirements for the year in question, including equipment for the active forces planned, Korean consumption, training attrition, and pipeline and supply level requirements. In addition, they include funds for procurement during that year of certain end items to meet additional requirements in the first year of a mobilization, including equipment for expanded forces, higher combat consumption and increased supply level and pipeline requirements. The procedure apparently assumes that "mobilization reserves" sufficient to cover first-year requirements are equal to the actual deficiency in production capabilities to meet requirements after mobilization begins, whether or not this is true.

While the budget in its finally approved form seldom includes sufficient funds to meet all the requiments for both current operations and the first year of a mobilization period, this remains the budget objective. Since the present budget procedure rests on the arbitrary assumption that "mobilization reserves" to be funded equal the deficiency in mobilization production capabilities, there is no means of weighing the effect of a greater or lesser degree of mobilization production capability on the quantity of "mobilization reserves" still needed.

To illustrate the point, a fund of $500 million has been proposed in the fiscal year 1954 budget to expand the base of production capacity for military end items, primarily through the procurement of long lead-time equipment. Yet, the present budget procedure does not specifically indicate to what degree this fund will reduce production deficiencies and what volume of end-item reserves will still have to be accumulated to meet mobilization requirements.

We therefore feel that it is essential that budgetary procedures be established in the military services and the Department of Defense which would indicate (1) the actual gap between mobilization requirements and mobilization-production capabilities, and (2) the extent to which it is proposed to fill this gap by expanding and maintaining production capacity and by accumulating end-item reserves.

Organizational and administrative changes

Organizational means and administrative procedures should be established within the Department of Defense to insure a more effective coordination of activities relating to the production equipment and facilities phases of military end-item production programs.

A more effective coordination and evaluation of the activities of the military services regarding production equipment and facilities is urgently needed if the policy we recommend is to be carried into effect. This need is apparent in the serious imbalances and deficiencies noted in current programs and plans. The imbalances we have found concern the relationship of production equipment and facilities to projected accumulations of end-item reserves. They exist in the various stages of the production processes. There is wide disparity in the degree of industrial preparedness among various military end-item programs. There is no comprehensive, coordinated plan for solution of the problem of

maintenance of capacity. We have been advised that in some instances production equipment in the custody of one service has not been readily available for use by another service, even though the equipment was held in reserve while it was needed in a critical production program of another service.

Appropriate organizational means and administrative procedures to provide more effective coordination and to minimize the deficiencies and imbalances noted are essential to a successful application of the policy of substituting production capacity for reserves of military end items.

Congressional action needed

The Congress should be requested to support and confirm through appropriate action the policy of substituting production capacity for reserves of military end items, including both creation of the additional production capacity needed and the continued maintenance of that capacity.

In the final analysis practical implementation of the policies and programs we urge depends in large measure upon the Congress. This is true for a number of reasons. The Congress must provide the appropriations needed both for establishment of the additional production equipment and facilities needed and for the continued maintenance of our production capacity. It may be necessary for the Congress to provide legal authority, in addition to appropriations, to permit purchase or lease of plants and other production facilities solely for the purpose of maintaining standby-production capacity. For these reasons we feel it extremely important that the Congress recognize and give its endorsement to the basic policy urged.

Since production capacity cannot serve as an adequate substitute for reserves of military equipment unless that capacity is maintained, we stress the importance of a declaration by the Congress of its intention to support, on a continuing basis, the maintenance of our Nation's productive capacity for military weapons and equipmnet. The Nation can ill afford to dismantle its war-production plants and facilities so long as any threat to its security exists. We believe that enunciation of such a policy by the Congress would provide the confidence necessary to wholehearted acceptance and adoption of the recommended policy.

A healthy production equipment industry

A healthy production-equipment industry is a key factor in this Nations' ability to adopt and apply the policy of establishing and maintaining production capacity necessary for an adequate mobilization base. At the same time, if the recommendtions we make are put into effect we believe a sufficient volume of business will be generated to substantially support the productive capacity of the production-equipment industries as a whole.

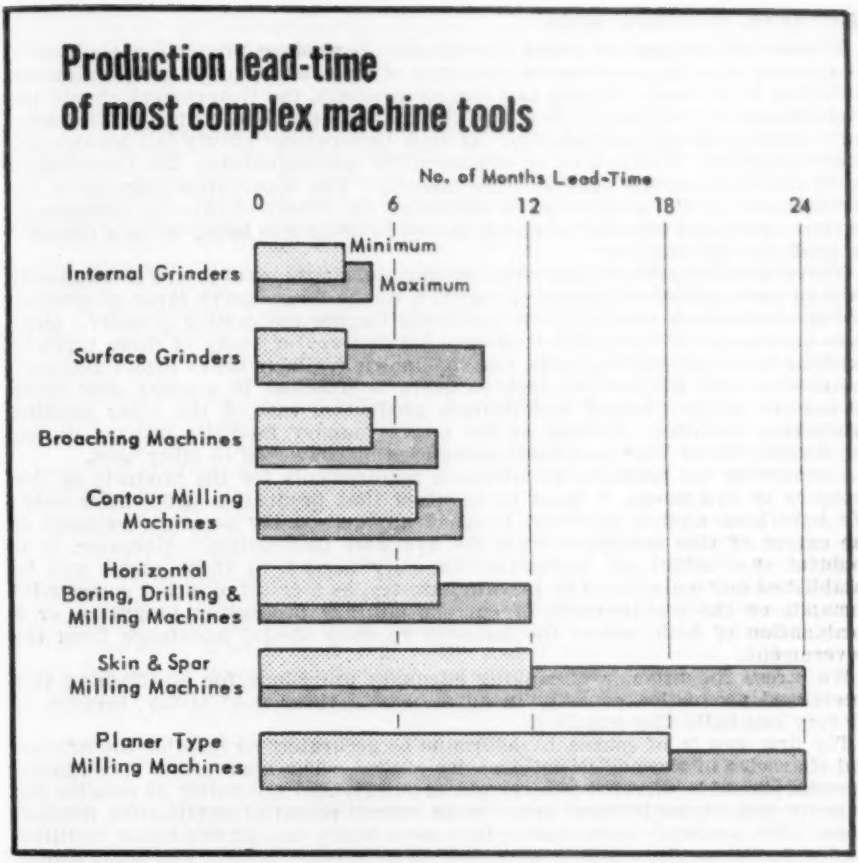
Without a statement of realistic mobilization requirements, it is not possible to make a precise estimate of the dollar value of the additional production equipment needed, but from the information obtained the indicated figure is in the range of $1 billion to $2 billion.

The present and projected inventory of Government-owned machine tools—for the most part in the custody or under the control of the military services—is estimated at about 550,000 items. A conservative estimate of this inventory in terms of replacement cost is over $6 billion. Taking into account the present rate of technological progress, the changing patterns of end-item production, obsolescence, and depreciation, an annual charge of approximately 5 percent of the valuation is required to maintain this inventory in reasonably modern condition. Hence, an annual volume of roughly $300 million worth of machine-tool business should originate from the Government alone if this valuable asset is properly maintained and continually kept up to date.

Following the Second World War, the annual output of the machine-tool industry, primarily to meet commercial demands, dropped to a low point of about $250 million in 1949. This period was one of the abnormal depression in the industry, mostly because the Government had dumped on the market a large number of modern items of production equipment acquired during the war. If this shortsighted policy is not repeated after the present emergency is over or when current contracts are completed, we estimate that normal commercial demand for replacement of obsolete and worn-out tools and for expansion should supply a minimum of $300 million worth of machine-tool business per year.

Supporting production capacity

In summary, if the recommended policies and programs are carried out, normal commercial demand can be expected to provide a minimum of $300 million



worth of machine-tool orders per year; the annual expenditure by the Government of about $300 million would be required to keep its present inventory in an up-to-date condition, and during the next few years an additional $200 to $500 million per year will be required for procurement of the production equipment needed to establish an adequate mobilization base. These sources should provide a total annual volume of business in excess of $800 million during the period the mobilization base is being established and a volume of $600 million per year thereafter. The machine-tool industry is currently producing at the rate of about $1.2 billion a year. The annual volume of expected new business therefore would be generally sufficient to support an adequate level of capacity to produce machine tools for defense.

Farsighted, businesslike management of Government programs for the acquisition and maintenance of production equipment could do much to reduce or eliminate the violent fluctuations that have characterized the production-equipment industry in the past. The need for such businesslike management is an additional argument in support of our suggestion to establish new organizational means to obtain a more effective coordination of governmental activities affecting the production-equipment aspects of defense programs.

We are aware that the pattern of production-equipment requirements in a full mobilization situation differs considerably from the pattern required to meet normal commercial demands, or from the pattern resulting from a combination of commercial demand and the requirements for establishing and maintaining an adequate mobilization base. For this reason there may be a number of situations in which capacity to produce production equipment is needed over and above the capacity to fill commercial demands and the demands created by following our recommendations. These exceptional situations should be taken into account.

73257—56——9

Government assistance needed

Where deficiencies are found in capacity to produce production equipment, as appears to be the case in some categories of large, heavy production equipment, including basic heavy forging and casting capactly, the Government should use every means at its disposal to stimulate creation and maintenance of the necessary capacity by private industry. If such Government efforts fail because the needed capacity is found to be commercially nonsupportable, the Government itself should create and maintain the capacity. The appropriate agencies of the Government should be directed to determine the extent of capacity deficiencies in these areas and take the necessary action to bring into being the new capacity to meet the deficienceis.

There is considerable evidence that susbtantial shortages of production capacity exist in the so-called elephants' category, i. e., the large, heavy types of general- and special-purpose machine tools and heavy forging and casting capacity. More than 2 years after Korea the lead-time for delivery of many of these types of machine tools exceeds 24 months, and the known available heavy armor and casting capacity for the medium-tank program is sufficient to support only about 60 percent of the planned mobilization production rate of the other existing production facilities. Several of the larger foundry facilities utilized during the Second World War have been dismantled or converted to other uses.

Considering the potential mobilization requirements for the products of this category of equipment, it must be assumed that production deficiencies exist. We have been unable, however, to make any reasonably accurate estimate of the extent of this deficiency from the available information. Moreover, it is doubtful that additional production capacity needed in these areas will be established and maintained by private industry, as a result of either commercial demands or the requirements of current military production programs, or a combination of both, unless the industry receives special assistance from the Government.

We stress the urgency of making adequate provisions for establishing this specialized production capacity in advance of a theoretical M-day, because of the very long build-time required.

The first step is, of course, to determine as accurately as possible the amount and character of the additional capacity needed. The appropriate Government agencies should be directed to ascertain as quickly and accurately as possible the capacity deficiencies in these areas on an overall potential mobilization demand basis. This is already being done in the case of heavy casting and armor facilities needed for the medium-tank program and in some other areas. The effort should be accelerated throughout the mobilization preparedness program.

When the extent of the deficiencies in the "elephant" category of production capacity has been determined, all the incentives available to the Government should be used to stimulate private industry to install and maintain the additional capacity needed, including 100 percent rapid tax amortization where appropriate. If these efforts fail to produce adequate results, the Government should install and maintain the necessary additional production capacity on a standby basis, as one of the costs of defense preparedness.

Wage and price considerations

In a future emergency, special consideration should be given to the production equipment industries in the application of wage and price controls in order not to impair the rapid expansion of production.

Expansion of machine tool production in the current emergency was delayed for many months by the imposition of arbitrary and unrealistic price and wage controls on production equipment industries. Insufficient recognition was given to the additional costs involved in subcontracting, multiple-shift operation, and overtime pay, and to adoption of a fair base period for price and profit purposes. Inadequate recognition was given to the necessity of permitting wage increases to meet new community wage levels in order to avoid loss of workers to other manufacturing industries.

In the current emergency these problems are now adjusted satisfactorily; however, too much time was spent in making such adjustments and, as a consequence, expanded production of vitally needed production equipment was substantially delayed. Many important current production programs are still suffering from the effects of this delay. In view of the critical importance of production equipment to the rapid expansion of military end-item production, we urge that, in the event of a future emergency, special consideration be given at the

start to the production equipment industry in the application of wage and price controls in order to encourage, rather than impair, rapid expansion of production.

Modernizing all industry

An important objective of Government policy should be the maintenance of up-to-date, modernized industrial production facilities, generally, and of a healthy production equipment industry capable of supporting this objective. Continuing study should be made by the appropriate executive agencies and by the Congress of ways and means by which the Government can appropriately assist in the attainment of this objective.

In response to the directive given us we have focused our attention primarily on the problems directly involving production equipment for military end-item production programs, but we recognize the importance to a full mobilization effort of maintaining up-to-date, modernized industrial plants and facilities in general. The general efficiency of production has a vital bearing upon the amount of the productive capacity normally devoted to satisfying civilian needs, which can be converted to production of the weapons and implements of war. Furthermore, the size and health of the production equipment industry depends to a considerable extent on the demand resulting from the replacement and modernization of the production equipment of civilian industry. This modernization, in turn, has a bearing on the convertibility and expandability of the production equipment industry to meet mobilization needs.

We have devoted considerable time and effort to the study of various proposals designed to give general assistance to the production equipment industry. One such proposal was the liberalization of Department of the Treasury regulations regarding rapid amortization for tax purposes of the cost of production equipment as a means of stimulating more rapid replacement of obsolete tools. It was also suggested that the production equipment industry should be accorded more liberal treatment in renegotiation of profits and in the application of the excess profits tax law as means for providing a greater degree of financial stability for the industry. The particular form and the possible effects of these proposals are controversial, to say the least, and in our view can be properly evaluated only in their relation to the national economy as a whole.

For this reason we have not attempted to evaluate these proposals or make any specific recommendations regarding them. However, in view of the tremendous importance of the industrial capacity of the country, both in peacetime and in war, we consider it essential that this capacity, in general, be maintained in an up-to-date condition and we urge that Government policy seek this objective. We urge that continuing study be given by the appropriate agencies of the Government and by the Congress to ways and means of attaining this objective.

Research and development

The Secretary of Defense should require the timely coordination by the three military services with the manufacturing industry of both research and development and procurement programs, to insure that the most modern production equipment, materials, manufacturing methods, processes and techniques be available for the production of military equipment.

We believe that the role of research and development in the field of production equipment and production processes requires greater emphasis in two principal directions.

The first emphasis should be in the development of production equipment, processes, and techniques in conjunction with the development of new military end-items or models. Too often the problem of efficient production methods is given little or no consideration until the item is fully developed and design and specifications fixed. At best, a further delay ensues while production problems are being resolved. In many instances the pressure to get into production results in the use of production techniques, processes, and tools, which are much less efficient than could otherwise be devised. Concurrent development of manufacturing processes and tools along with the design and development of the new weapon itself is highly desirable.

The second area requiring greater emphasis is research and development in the field of new production processes and equipment, particularly as new production materials are developed. The heavy press program and the developments in precision casting and forging are illustrative. The development of titanium offers another striking example. Although substantial Government funds were devoted to research and development regarding efficient production of titanium, virtually no funds were allotted to research and develop-

ment relating to methods of processing and fabricating this new material. As a result, the use of titanium in military production is being delayed.

Where adequate research and development of production equipment and materials in support of new weapons programs are not commercially supportable, the military services or appropriate Government agencies should obtain the necessary funds and contract with private industry for research and development projects in these fields, in order to assure availability of new weapons in adequate quantities and at the lowest possible cost. Development of new design production equipment, as well as the development of improved production systems and methods, new materials and processes, is as vital to our military preparedness as the development of the new weapons themselves.

Conclusion

The beneficial effects of the policies and programs recommended in this report can be realized only to the extent that concrete actions are taken to apply the policies and pursue the programs. We firmly believe that only by taking determined action can the highest practicable degree of national security be achieved and maintained over an extended period of time.

We do not present our recommendations as all-inclusive. Many other and more detailed actions were suggested to us which we have not set forth because we consider them of lesser importance or because they impinge upon the responsibilities of the executive agencies concerned to select their own programs.

Undoubtedly, there are still other courses of action which would contribute to the more effective application of the policy we propose. We have called attention only to those courses of action we consider most immediately essential to the Nation's security in the months and years ahead.

III. DOCUMENTATION IN COMMITTEE FILES

At the outset of its inquiry the committee found that accurate information on production capacities and their adequacy in relation to programs and requirements was either not centrally available or difficult to obtain. It undertook, therefore, a series of hearings and inquiries, together with studies and investigations by its staff, to collect the necessary data on the status, 2 years after Korea, of military programs, production capabilities, defense requirements and other aspects of the current mobilization. Much of the information that came within the committee's cognizance is, of necessity, of a highly classified nature. Furthermore, the basis of the facts and data compiled is subject to constant review and change. Because of these considerations the information is not being made part of the published report, but it is being held available in the files of the committee for reference by any authorized persons to whom it might be of assistance.

The information is contained in the following papers:

National and Government-owned machine tool inventories.
Tank production programs.
Medium tank program.
Light tank, T–41.
Aircraft and jet engine programs.
Ship propulsion program.
Ammunition program.
Selected items of ammunition.
Selected Army items.
Status of facility expansion programs.
Comparing facility expansion programs.
Weapons program.
Military end-item production programs.
Survey of military end-item production programs.
Heavy press program.
Problems and policies affecting the production equipment industries.
Problems in tool and die and gage industries.
Problems of the machine tool and associated industries relating to the mobilization base.
History of the machine tool industry.
Department of Defense budget procedures.

IV. APPENDIXES

1. Establishment of the Committee

MAY 16, 1952.

Defense mobilization order No. 15

By virtue of the authority vested in me by Executive Order No. 10193, and in order to implement and coordinate the actions of the mobilization agencies with respect to machine tool and production equipment programs, it is hereby ordered:

1. There is established in the Office of Defense Mobilization an Advisory Committee on Production Equipment which shall consist of a Chairman and other members designated by the Director.

2. The Committee shall review Federal policies and programs with respect to machine tools and production equipment and shall make recommendations to the Director concerning the establishment of such additional policies and programs as may be required in order to assure (*a*) the availability of machine tools and production equipment to meet defense production requirements; (*b*) the maintenance of adequate capacity to produce machine tools and production equipment as part of the mobilization base; and (*c*) the maintenance of standby machine tools and production equipment, including methods of modernization, rotation or disposition of obsolete tools and equipment, to meet full mobilization requirements.

3. The Committee shall periodically submit reports to the Director setting forth its recommendations concerning the matters contained in paragraph 2 hereof and such related subjects with respect to machine tools and production equipment as in the judgment of the Committee are appropriate.

4. Federal agencies concerned with the subject mater of this order shall cooperate with the Chairman of the Committee to the fullest extent in order to assist in carrying out the work of the Committee.

5. This order shall take effect on May 16, 1952.

OFFICE OF DEFENSE MOBILIZATION,
(Signed) JOHN R. STEELMAN,
Director (Acting).

2. Appointment of Committee Members

A. ODM press release No. 111

MAY 16, 1952.

"Dr. John R. Steelman, Acting Director, Office of Defense Mobilization, today announced the establishment in ODM of an Advisory Committee on Production Equipment of which Mr. Harold Vance, chairman of the board and president of the Studebaker Corp., will be chairman.

"Addition members of the Committee announced today are: Mr. Clay Bedford, president, Chase Aircraft, and recently Special Assistant to the Secretary of Defense; Mr. Manly Fleischmann, present Defense Production Administrator who will serve on the Committee when his resignation as Defense Production Administrator becomes effective June 1; and General K. B. Wolfe, retired, former Chief of Air Force Procurement. Announcement of additional members will be made shortly.

"The Advisory Committee was set up at the suggestion of President Truman * * * to bring together in the Office of Defense Mobilization, a group of people who have had experience with production problems to examine the policies and programs that the various agencies have developed to assure our national readiness, in respect to production equipment, including machine tools, and to assist in working out such additional policies and programs as may be necessary to accomplish that objective speedily and with a minimum of cost.

"In setting up the Advisory Committee, Dr. Steelman said it would review Federal policies and programs with respect to production equipment and make recommendations to the Director concerning the establishment of such additional policies and programs as may be required * * *.

"The President, in his memorandum for Dr. Steelman said: 'The recent reports which you have given me on deliveries of military equipment indicate that the production program is moving ahead with truly encouraging speed. While not all of the engineering and production difficulties on the new equipment have yet been overcome, the "bugs" have been eliminated on some of the most important models of aircraft, tanks and other weapons, and deliveries are rising month by month. We can never let ourselves be fully satisfied with the way things are

going, but I am impressed that the production program is now rapidly gaining momentum.'

"Mr. Truman added: 'In addition to continuing the emphasis on meeting current production goals, I believe you should also give the greatest emphasis during the remainder of this year to another major aspect of the defense mobilization program—the requirements of the mobilization base.' The new Advisory Committee is designed to meet this request * * *."

B. ODM Press release No. 125

JULY 2, 1952.

"Dr. John R. Steelman, Acting Director, Office of Defense Mobilization, announced today the completion of the membership of the Advisory Committee on Production Equipment set up in ODM for policy guidance and advice to the Director and the Government agencies directly concerned with production equipment necessary to meet mobilization base requirements. * * *

"Other members are: * * * Adm. W. H. P. Blandy (retired), president, Health Information Foundation; Gen. LeRoy Lutes (retired), president, Pacific Tire & Rubber Co.; * * * Rear Adm. Lewis L. Strauss, USNR, consultant and financial adviser to the Messrs. Rockfeller.

"Charles B. Stauffacher, ODM, is Executive Secretary of the Committee and Thomas J. Craven, ODM, Assistant Executive Secretary. * * *"

3. Interim report

SEPTEMBER 12, 1952.

Memorandum for the Director, Office of Defense Mobilization.
Subject: Interim Report of the Advisory Committee on Production Equipment.

Although your Advisory Committee on Production Equipment expects to submit at a later date a comprehensive report with recommendations concerning all of the matters contained in your directive of May 16, 1952, we deem it necessary to give you, at this time, this preliminary report because (*a*) we are convinced that there is a question of broad policy which should be considered immediately, and (b) there should be no delay in initiating action with respect to certain items in the defense program which we shall identify and describe herein.

With regard to the policy question, it is the basic philosophy of the Committee that if an adequate defense position has to be maintained over an extended period of time, as now seems to be the case, and if this is to be done without prohibitive cost, a larger porductive capacity to produce military end items must be created and thereafter must be maintained in such a condition that it can be quickly expanded in the event of an emergency by merely adding manpower and hours of operation.

The Committee believes that such expanded reserve capacity can take the place of portions of projected reserves of military end items, thereby substantially reducing the cost of maintaining an adequate state of preparedness over an extended period. In this connection it is pointed out that the costs of obsolescence or modernization are much less with respect to facilities than they are to stockpiles of end items.

Except for some parts of the aircraft program and a few others, most current production programs for military end items have been calculated on the basis of needs to equip our Armed Forces short of actual war, plus very substantial quantities of end items estimated to be needed after M-day, should a full-scale war be forced upon us, which would have to be drawn from stockpiles until additional production capacities could be created starting at M-day to fill the gap which now exists. In some categories the creation of this additional capacity after M-day could be accomplished within a few months; but in other important ones it would take as much as 3 years, even under the urgency of war.

With respect to a number of long lead-time situations with which the Committee is familiar, it feels a sense of great urgency, reinforced and supported by the knowledge that on an overall basis the creation of additional production capacities now rather than after M-day would reduce the necessity for reserves of end items to an extent that it would result in a substantial saving in the cost of the defense program as a whole; this is, of course, of less importance than the valuable addition which would be made to our national security.

While the Committee has come to the definite conclusion that full mobilization requirements, as now stated, are not sufficiently firm that they may be used as a basis for determining precisely how much additional production capacity is required for each military end item across the board, nevertheless, the Committee

believes that there are many areas where major deficiencies in production capacity are known to exist and where action toward creation of additional production capacity should not be delayed.

For example, the Committee finds that the Department of the Air Force and the Bureau of Aeronautics of the Department of the Navy have developed in the form of the production acceleration insurance program (PAIP), programs for expansion of production capacities which are sound in principle and which should in our opinion be finally evaluated and, when approved, should be proceeded with at once. Similarly, the Committee finds that the Bureau of Ships of the Department of the Navy has prepared a substantial program for creating production facilities to produce propulsion equipment for Navy and maritime needs which should be evaluated and initiated without delay. There are other vital areas, such as the heavy press program for the Air Force, the heavy forging and casting program for the Army, which should be expedited.

The Committee finds that there are some funds now available from appropriations for the fiscal years of 1952 and 1953, which could be utilized for the purpose recommended. We recommend that further steps be taken immediately to expand the production capacity base to the extent that funds are now available and we also recommend that wherever possible in connection with the final determination of items for inclusion in the 1954 budget, provision should be made to finance another substantial increment of this important program.

We recommend that in connection with the development of their estimates for the 1954 budget, each of the military departments should be required to submit a special analysis of its longest lead-time production equipment needs, such as those previously mentioned. It apears probable that additional Government-owned production facilities may have to be established in these areas for the reason that the necessary capacity is not commercially supportable. If after careful study by the Department of Defense, the Defense Production Administration, and the National Production Authority, the principal governmental agencies concerned, such proves to be the case, action programs should be initiated as quickly as possible because of the long time period required for the completion of such programs.

We further recommend that insofar as practicable each military department, in presenting its budget request for end items, should make available on the significant items a supporting analysis showing the status of production capacity now in being, the additional capacity on order, and what would be required to approximate full mobilization needs.

The Committee feels very strongly that the importance, to say nothing of the economy, of substituting producaion capacity for the stockpiling of military end items to the greatest extent practicable should be recognized by the Department of Defense and by the military departments, by other agencies of the Government, and by the appropriate committees of the Congress. No enforced reduction as between the original requests of the military departments and the final appropriations by Congress should have the effect of denying such funds as may be necessary to carry out a program of immediately expanding the production capacity base and thereafter maintaining such base. The Committee believes that both expansion and maintenance of the production capacity base are essential parts of our program for national security.

HAROLD S. VANCE,
Chairman, Advisory Committee on Production Equipment.

4. Exchange of letters between Director, ODM, and Secretary of Defense

OCTOBER 10, 1952.

HON. ROBERT A. LOVETT,
Secretary of Defense,
Washington 25, D. C.

DEAR MR. SECRETARY: Since receiving the attached interim report of the ODM Advisory Committee on Production Equipment, dated September 12, 1952, I have had the opportunity of discussing some of the recommendations with Deputy Secretary Foster, Assistant Secretary of Defense McNeil, and Chairman Small and Vice Chairman Houston of the Munitions Board. In transmitting it for your information and advice, I would like to emphasize several features of this report.

First, I believe it would be helpful for the executive departments to adopt formally the policy referred to in the second paragraph of the report; namely,

"* * * if an adequate defense position has to be maintained over an extended period of time, as now seems to be the case, and if this is to be done without prohibitive cost, a larger productive capacity to produce military end items must be created and thereafter must be maintained in such a condition that it can be quickly expanded in the event of an emergency by merely adding manpower and hours of operation."

I realize that this statement is in accord with much of your thinking and action as well as that of others in the Department.

Second, I believe that a formal reaffirmation and execution of this policy by the Department of Defense is desirable in connection with the preparation of the 1954 budget now currently underway. You will note the Committee's recommendations on page 2 of the report as follows:

"We recommend that further steps be taken immediately to expand the production capacity base to the extent that funds are now available and we also recommend that wherever possible in connection with the final determination of items for inclusion in the 1954 budget, provision should be made to finance another substantial increment of this important program."

I concur heartily in this recommendation and am pleased to learn from Deputy Secretary Foster, Assistant Secretary McNeil, and Chairman Small that the Department is making plans to include a provision for such funds in the 1954 budget.

I would hope that the unavailability of specific itemized programs for reserve production capacity would not preclude the inclusion of a substantial sum for this purpose in the fiscal year 1954. I feel that the examinations by the Advisory Committee referred to in its preliminary report, have sufficiently demonstrated the overall need for this provision. The need can be adequately supported by examples at the time of the appropriation hearings to justify the inclusion of the general lump sum appropriation earmarked for such use.

Although this is a matter of internal management, it would seem to me desirable that this appropriation be assigned to your office rather than to the individual services so that, upon application by the individual services for allotment to a specific reserve production capacity program, the necessary evaluation and determination could be made. Such a procedure will insure that funds will be used where needed most, and only upon adequate demonstration by the sponsoring service of the timeliness and priority of their request for allotment as against other similar needs.

In this connection I recognize that the allotment of funds and the granting of preferences against machine tool building capacity ought to be governed by the policy stated in your directive on Military Supply System Regulations, subsection H, subsection 6, as follows:

"The highest priority is to be given to requirements for current production needs. The second priority is to the machine tool requirements for approved mobilization capacity."

I also note the committee's statement that they find "that there are some funds now available from appropriations for the fiscal years 1952 and 1953" which could be utilized now as a basis for orders for production equipment. I understand that the services are presently resubmitting eligible programs for immediate consideration, evaluation and approval with the necessary modifications which a review would indicate. This desirable step will tend to maintain the momentum of such key industries in the production-equipment field as the machine-tool industry and, in particular, those segments of that industry where it is important to maintain a continuation of maximum effort.

Sincerely yours,

(S) HENRY H. FOWLER, *Director.*

OCTOBER 30, 1952.

Hon. H. H. FOWLER,
Director, Office of Defense Mobilization,
Washington 25, D. C.

DEAR MR. FOWLER: This is in reply to your letter of October 10, 1952, transmitting and commenting upon the interim report of the ODM Advisory Committee on Production Equipment.

The Committee is to be commended for its thoughtful and timely recommendations, which attest to the high quality of its membership. I have forwarded the report for study to all interested elements of the Department of Defense.

As to the proposal contained in the interim report for a separate fund for the procurement of production equipment for reserve production capacity, the following actions have been taken.

The Department of Defense in late July and August gave preliminary consideration to such a proposal which was understood might be forthcoming. As a result, the military departments in their budget submissions to the Secretary of Defense on September 2 took the initial step of identifying certain portions of their requests for the purpose of reserve production capacity programs. Recently it was proposed to include a substantial amount in the 1954 budget request of the Defense Department, which is expected to be ready for submission to the Bureau of the Budget by November 1. This approach to the problem of financing a reserve production capacity program would contemplate, as has been discussed, the support of the Office of Defense Mobilization and the Vance committee before the appropriate committees of the Congress. The military departments have indicated their support of this plan.

As noted in your letter, our policy has long been to place the highest priority on the acquisition of machine tools for current production needs, with second priority applied to acquisition of machine tools for approved mobilization capacity.

There are a number of other major matters contained in the report which must be given the most careful and thorough consideration possible within reasonable time limitations. As soon as the military services and other interested agencies have had full opportunity to study the matter, we will be ready to discuss it with you and the Production Equipment Committee.

I believe that the new approach now underway in developing a feasible mobilization-production program will act to facilitate a sound solution to the basic mobilization-base problem. This program is developed on a sound basis, and it will, therefore, provide a much better measure of tooling needs than has existed heretofore.

Sincerely yours,

(S) ROBERT A. LOVETT.

5. Staff and acknowledgments

The Committee staff consisted of:

Executive secretary:
- Charles B. Stauffacher (to August 1, 1952).
- Thomas J. Craven.

Research and analysis:
- Alfred S. Cleveland, on loan from National Production Authority.
- Charles I. Longacre, consultant.
- Stephen J. Nesbitt, consultant.
- Cornelius D. Scully, on loan from National Security Resources Board.
- Thomas B. Worsley, on loan from Office of Price Stabilization.

Editorial direction:
- Edgar D. Brooke, consultant (to December 1, 1952).
- Philippe G. Jacques, consultant.

The Committee expressses its thanks to Mr. Ralph S. Howe, Director of the Metalworking Division, National Production Authority, for preparing an extensive report on the problems facing the machine tool and associated industries and recommending courses of action to solve those problems.

The thanks of the Committee are extended to all those in and outside of Government who took part in the various conferences, meetings, and other Committee activities, and who otherwise assisted in the Committee studies.

The Committee acknowledges the assistance of the Office of Defense Mobilization which placed its facilities at the disposal of the Committee and arranged for the publication of the report.

Other departments and agencies of the Federal Government that gave assistance are:

National Security Resources Board.
Department of Defense:
- Munitions Board.
- Department of the Army.
- Department of the Navy.
- Department of the Air Force.

Department of the Treasury.
National Production Authority (Department of Commerce):
Metalworking Division.
Products Analysis Division.
General Services Administration.
Office of Price Stabilization.

APPENDIX 2

[Joint ODM–DOD news release, January 5, 1956]

Reserve Machine Tool and Facilities Policy

Clarification of policy relating to the reserve tool and facilities program was announced today by the Office of Defense Mobilization and the Department of Defense.

Designed to permit the procurement of long lead-time machine tools, prevent obsolescence and to achieve flexibility in the use of reserve tools, the changes become effective in the near future.

Specifically, the modifications announced today state that reserve machine tools will be maintained either in packages owned by the individual military departments to produce selected end items under mobilization or as individual tools in a central Department of Defense inventory, available for use by all departments.

All tools included in packages will be reviewed annually to determine essentiality of the package and to determine replacements or additions if needed. Tools no longer needed in packages will be placed in the central inventory, available to any military department for current use.

The military departments will be permitted to use equipment in packages on a loan basis when such equipment is not available from industry or from the inventory to meet urgent production schedules. When replacement tools are received, the borrowed equipment will be returned to its original package, if required.

Each military department will budget for its own tools, including those needed for current programs, mobilization reserves, and replacement purposes.

The use of new reserve tools for current use will be permitted to take advantage of production savings from more efficient, newly developed equipment.

The reasons announced for the policy changes are: To meet the changing current military and mobilization reserve requirements; to insure the availability of an up-to-date, modern inventory of tools; to permit flexibility in their use in order to obtain full benefit from newly developed, more efficient equipment and techniques; to insure trainiing of personnel to operate the newer type equipment; and to provide a more realistic basis for reviewing the requirements of the military departments for machine tools by relating those requirements to firm programs and including them in the regular annual budget cycle.

The basic reserve tool and facilities program was established in 1953 by the Office of Defense Mobilization based on the recommendations of an Advisory Committee on Production Equipment headed by Harold Vance, formerly with the Studebaker Corp., now a member of the Atomic Energy Commission. The recommendations of the Committee included a provision that the Government should purchase long lead-time machine tools for mobilization purposes and that such tools should be placed in a reserve inventory, not available for current use.

The committee's findings are still considered basically sound. Experience gained over the past 3 years, however, has demonstrated a need for adjustment. The announcement stated that the program, as originally established, was restricted to the procurement of tools for mobilization use and did not provide for current use of tools or the procurement of replacements for obsolete items; no provision was included for the modernization of the reserves by procurement of more efficient machine tools as they were developed and no provision was made for the periodic review of the reserve tools in order to keep them modern and to insure that tools no longer needed were eliminated.

For fiscal year 1955 and again for fiscal year 1956, Congress appropriated $100 million to be allocated by the Secretary of Defense for the purchase of long lead-time machine tools to be placed in the mobilization reserve and not

used for current production. Out of the 1955 appropriations, $16 million has been approved for the purchase of tools for the reserve. Of this total, $1 million was purchased by the Army and $15 million by the Navy. The remaining $84 million is being returned to the Treasury by the Air Force as unobligated. However, substantially the same amount and types of tools will be procured from production funds by the Air Force and will be placed in current production.

The balance of $100 million appropriated for fiscal year 1956 is being held in abeyance pending development of final detailed plans concerning its ultimate utilization. It is contemplated that in future years, annual appropriations will be requested by the Secretary of Defense to maintain funds for procurement of tools to meet emergency production schedule needs.

It was also announced that Mr. Vance had been consulted concerning the changes and had expressed his agreement.

Directives implementing the changes are being issued by the Office of Defense Mobilization today, and the Department of Defense directives conforming with these orders will be issued in the near future.

VII–Prod–DMO–4
Amendment 1
January 6, 1956

APPENDIX 3

Executive Office of the President

Office of Defense Mobilization

Defense Mobilization Order–VII–4—Amendment 1

Subject: ODM policy guidance on government-owned production equipment.

1. Defense Mobilization Order–VII–4 is hereby amended as follows:

(*a*) The last sentence in subsections A and B of section 1 are deleted.

(*b*) The following paragraphs are added to subsection A of section 1:

"All equipment in 'packages' shall be reviewed at least once each year to insure their essentiality to mobilization requirements and to guard against obsolescence. 'Packages' or parts of 'packages' found to be obsolete or no longer essential to mobilization requirements shall be reported by the military departments to the Department of Defense as idle equipment to be screened for redistribution or disposal.

"In any instance in which the military departments cannot meet urgent production schedules, because production equipment essential to this end is not immediately available within the Government or from private industry, equipment in 'packages' shall be made available on a loan basis for this purpose, until it can be replaced by equipment from other sources. Upon the termination of such loans the borrowed equipment, if required, will be returned to its 'package.'

"Recognition of the need for the continued maintenance of a modern and efficient production equipment mobilization base and Department of Defense planning and programing toward that objective would be advanced by the inclusion and consideration of requests for the following purposes as a part of the regular, annual budget cycle:

"(1) Procurement of equipment to meet current production schedules, including equipment necessary to permit return of items borrowed from 'packages.'

"(2) Replacement of obsolete items in 'packages' by equipment currently regarded as efficient for the purpose.

"(3) Provision for modernization and replacement of production equipment to keep pace with technological advances in both munitions design and in equipment essential to its efficient production."

(*c*) The following new subsection C is added to section 1.

"C. *Nondefense leasing.*—No Government-owned production equipment shall be leased for nondefense production purposes except when plans for such leasing

have been prepared by the owning agencies and approved by the Office of Defense Mobilization."

2. This amendment shall take effect immediately.

OFFICE OF DEFENSE MOBILIZATION,
ARTHUR S. FLEMMING, *Director.*

VII–Prod–DMO–4
October 4, 1953

EXECUTIVE OFFICE OF THE PRESIDENT

OFFICE OF DEFENSE MOBLIZATION

DEFENSE MOBILIZATION ORDER–VII–4

Subject: ODM policy guidance on Government-owned production equipment.

In order to maintain a highly effective and immediately available machine-tool and production equipment reserve for the mobilization readiness program of the United States Government, the Office of Defense Mobilization sets forth the following policy on Government-owned production equipment, including machine tools:

1. Disposition of production equipment

A. *Department of Defense.*—Production equipment owned by the Department of Defense for which there exists a known or anticipated defense mobilization need should be held in efficient operating condition in "packaged form" ("packaged form" means a complete complement of production equipment and tools capable of producing a particular military item or items at a particular plant) at or near the plants which will operate them in event of an emergency. In the event no such storage arrangement is possible, the equipment may be stored in central Government warehouses, but, in such cases, all efforts should be exerted to maintain intact complete complements of production equipment and tools. In those cases in which complements of equipment are not wholly Government-owned, every effort should be made to keep as much as possible of the total equipment complement in packaged form.

Department of Defense owned tools and equipment shall not be leased for nondefense production except when plans for leasing have been submitted by the Department of Defense and approved by the Office of Defense Mobilization.

B. *Other Government agencies.*—Production equipment owned by Government agencies, other than the Department of Defense, should be stored adjacent to manufacturing establishments only if there exists a known or anticipated defense mobilization need therefor at such location and if storage arrangements provide for the maintenance of the equipment in efficient operating condition. Where adjacent storage is not required to meet a known or anticipated defense mobilization need, the equipment should be placed in storage by the owning agencies under the most economical arrangements that are compatible with maintenance of the equipment in efficient operating condition.

No production equipment owned by Government agencies, other than the Department of Defense, shall be leased for nondefense production except when plans for such leasing have been prepared by the owning agencies and approved by the Office of Defense Mobilization.

2. Scope of policy

The policy guidance set forth herein shall relate to all Government-owned production equipment, as defined in supplement A to DMO–18, whether or not such equipment is included in the inventories established by DMO–18A and DMO–18B. This order is not designed to affect any existing leases of Government-owned production equipment.

3. Reports

Periodic reports of operations under this policy will be submitted to the Director of the Office of Defense Mobilization and made public by him.

4. This order shall take effect on October 9, 1953.

OFFICE OF DEFENSE MOBILIZATION,
ARTHUR S. FLEMMING,
Director.

VII–Prod–DMO–4
Supplement 1
August 25, 1955

EXECUTIVE OFFICE OF THE PRESIDENT

OFFICE OF DEFENSE MOBILIZATION

DEFENSE MOBILIZATION ORDER–VII–4

Supplement 1

Subject: ODM policy guidance on Government-owned production equipment.

In order to provide immediate relief to the disaster areas designated by the President, the Office of Defense Mobilization hereby supplements its policy on the leasing of Government-owned production equipment in the following particulars:

1. Tool reserves of idle Government-owned production equipment are assigned under Defense Mobilization Orders–VII–1A and VII–1B to the Department of Commerce and the Department of Defense. The Commerce inventory covers idle equipment belonging to the Atomic Energy Commission, the Maritime Administration, the General Services Administration and the Department of Health, Education, and Welfare. The Defense inventory contains idle equipment belonging to the Departments of the Army, Navy, and Air Force. These inventories include machine tools, secondary metalworking equipment, welding equipment, heat-treating furnaces, heavy power transformers, industrial trucks, tractors and trailers and certain specified testing and measuring machines.

2. All idle equipment included in these two central inventories will be made available upon request to producing establishments crippled by recent floods. Authority to arrange for the immediate leasing of such equipment to damaged establishments who need it to resume normal operations is hereby granted to the Department of Defense and the Department of Commerce for the items in their respective idle inventories. This authority is limited to the disaster area and to the duration of the flood emergency as established by the President of the United States.

3. Leases authorized under this supplement shall be only for such period of time as is necessary for the lessee to obtain delivery on equipment to replace those which have been damaged or destroyed. In no case shall the lease be entered into for more than a 1-year term. If at the close of a 1-year term replacements are still not available, existing leases may be extended for an additional period until deliveries can be effected or 1 year whichever is the shorter. Monthly rentals for equipment leased under this supplement will be charged at the rate of 1 percent per month of the acquisition cost of the equipment. The lessee will also pay all shipping and installation costs incidental to getting the equipment into operation at the sites at which it is to be used.

4. Authorization to lease and ship will be issued by the Commerce and Defense Departments within 24 hours of receipt of request wherein at the discretion of authorized Commerce and Defense Department officials such leasing is necessary to restore normal production. Details of the formal lease will be worked out as quickly as possible thereafter between the leasee and the owning agency or by the General Services Administration acting for the owning agency.

5. Periodic reports of operations under this supplement will be submitted on call by all participating agencies to the Director of the Office of Defense Mobilization to be made public at the discretion of the Director.

6. This supplement shall take effect on August 25, 1955.

OFFICE OF DEFENSE MOBILIZATION.
ARTHUR S. FLEMMING, *Director.*

VII–Prod–DMO–4
Supplement 1
(Amendment 1)
September 21, 1955

EXECUTIVE OFFICE OF THE PRESIDENT

OFFICE OF DEFENSE MOBILIZATION

DEFENSE MOBILIZATION ORDER–VII–4

Supplement 1 (Amendment 1)

Subject: ODM policy guidance on government-owned production equipment

1. Supplement 1 of Defense Mobilization Order–VII–4 is hereby amended as follows:

Add the following sentence to paragraph 3:

"The monthly rental charges will begin 90 days after the arrival of the equipment at the lessee's plant."

2. This amendment is retroactive to August 25, 1955.

OFFICE OF DEFENSE MOBILIZATION.
ARTHUR S. FLEMMING,
Director.

APPENDIX 4

UNITED STATES SENATE,
SELECT COMMITTEE ON SMALL BUSINESS,
December 12, 1955.

Hon. ARTHUR S. FLEMMING,
Director, Office of Defense Mobilization,
Washington 25, D. C.

DEAR MR. FLEMMING: The Small Business Committee has long been interested in the soundness of the machine-tool industry, since the vitality of this industry reflects not only upon our ability to produce for defense in a future emergency but upon the health of our small-business community as well. For these reasons, I would appreciate full information as to the current status of ODM programs and planning as they relate to the machine-tool industry.

As you are well aware, United States defense production in World War II and later in Korea was hampered by machine-tool shortages and deficiencies in our mobilization planning. During this period of relative calm, it would be well, I believe, to examine the premise of our Government-owned machine-tool inventory and mobilization plans for their utilization in order to guard against similar delays in another national emergency. Further, it may be well to consider a replacement program for machine tools and related industrial equipment to keep these national assets at a higher level of efficiency.

As I understand it, the greater portion of our machine-tool inventory is 11 to 15 years old. Rapid technological advances in the last few years have produced machine tools of vastly greater efficiencies than World War II models. Operating efficiencies resulting from the use of newest machine tools might make a replacement program largely self-supporting and at the same time improve our ability to produce in a future emergency.

Briefly stated, what I want to know is how we stand as to: (1) sufficiency of the current inventory of Government-owned machine tools, (2) adequacy of our mobilization planning for utilizing these machine tools in a future emergency, and (3) the desirability of instituting a replacement program to maintain these tools in a relatively modern condition.

There is no disposition to limit your reply to the above questions as I am anxious to have a full expression of your views. I know of your interest in the problems of small business and your willingness to cooperate with this committee. In order to fully collate this information for the benefit of committee members, a reply by December 28 would be appreciated.

Thank you for your cooperation in this matter.

Sincerely yours,

JOHN SPARKMAN, *Chairman.*

APPENDIX 4 (a)

EXECUTIVE OFFICE OF THE PRESIDENT,
OFFICE OF DEFENSE MOBILIZATION,
OFFICE OF THE DIRECTOR,
Washington 25, D. C., January 12, 1956.

Hon. JOHN SPARKMAN,
Chairman, Select Committee on Small Business,
United States Senate,
Washington, D. C.

DEAR SENATOR SPARKMAN: This is in further reference to your letter of December 12, 1955, in which you have asked for current information on the several machine-tools programs. In compliance with your request we now transmit to you the enclosed report which has been prepared to cover the various aspects of your inquiry.

The report is organized into three sections as follows:

1. Statement of the general purpose of the programs and the authority under which they are carried on.
2. Summary of the activities engaged in by the ODM in carrying on the programs.
3. An evaluation of the current status of each of the principal programs, the progress made to date and what remains to be accomplished.

We believe that the basic issues raised by the first two questions in the fourth paragraph of your letter are answered in the report, but complete details on the military-tool program can be obtained only from the Department of Defense. We understand that they are supplying you with a report on these subjects.

With respect to the third question in the paragraph, for some time we have shared with the Department of Defense officials, a growing concern over the age of the inventories of military-owned tools. For this reason, on Friday, January 6, we jointly revised our directives on machine tools and production equipment. These new directives provide for an annual review of all machine tools, and also provide that the military services shall request annual appropriations for replacement of obsolete equipment.

If there is any further information that we can supply or any other way in which we can be of assistance, please call on us.

Sincerely yours,

ARTHUR S. FLEMMING, *Director.*

PRODUCTION-EQUIPMENT PROGRAM

I. Authority

1. The production-equipment program is concerned with provision for, and maintenance of, an adequate production-equipment mobilization base, including the entire field of machine tools and metalworking equipment.

2. This program is carried out under the authority of the Defense Production Act of 1950 (as amended in June 1954 and August 1955), Executive Order 10480 of August 14, 1953, and each of the following defense mobilization orders:

Defense Mobilization Order I–7, of August 14, 1953, delegating authority to certain offices and agencies pursuant to the Defense Production Act and Executive Order 10480.

Defense Mobilization Orders VII–1–A and VII–1–B of August 3, 1953, providing for the management of Department of Defense-owned production equipment by the DOD and providing for the establishment of a civil agencies central inventory of production equipment within the Commerce Department.

Defense Mobilization Order VII–4, of October 9, 1953, outlining ODM policy guidance on Government-owned production equipment.

Defense Mobilization Order VII–7, August 25, 1954, providing for the maintenance of the mobilization base and establishing a Defense Facilities Maintenance Board.

II. Summary

Among the principal activities in which the ODM has been engaged in carrying on the production-equipment program are the pool order program, the industrial leasing program, the elephant machine-tool facilities expansion program, the machine-tool facilities expansion program, the program for the development and adequate control of central inventories of Government-owned production equipment, the program for establishing appropriate control of the leasing of Government-owned equipment for nondefense production purposes, and the pro-

gram for the development of full mobilization requirements for controlled materials for the production equipment producing industries. Other important activities engaged in as a part of this program are the elephant reserve program, the M-day pool-order program, machine-tool tariff, and foreign trade problems, surplus-equipment disposal problems, revision of standard leasing and purchase contract forms, Hoover Commission recommendations on the management of Government-owned equipment and surplus property disposal, questions in connection with the proposed use of ODM borrowing authority funds for additional Government-owned machine-tool reserves, development of improved machine-tool requirements data, and evaluation of requests for exemptions to expansion goals.

The principal other Federal agencies worked with in these endeavors are the Department of Defense, the General Services Administration, the Business and Defense Services Administration, the Maritime Administration, the Atomic Energy Commission, the Department of Health, Education, and Welfare, and the Small Business Administration.

During the past year, considerable progress has been made toward finding adequate solutions to production-equipment problems which have been of particular interest to the committee. Paramount among these are satisfactory control over leasing of Government-owned equipment for nondefense production purposes, the coordination of all leasing proposals and all important production-equipment issues with the Small Business Administration and other interested Federal agencies, the development of a program for enlarging Government-owned reserves of elephant tools as an alternative and supplement to the elephant machine-tool facilities expansion program, the determination of what constitutes adequate and competitive rental rates for Government-equipment leases, the further expansion and development of a central inventory record of all Government-owned production equipment, and the tightening up of policy and regulations designed to prevent dissipation of the Government-owned production equipment mobilization base via surplus sale channels.

III. Evaluation

1. *Pool-order program.*—The purpose of this program was to keep the machine-tool producers busy building tools needed for mobilization during a period in which they might otherwise not have been producing to capacity because of the unavoidable lag between the placing of prime defense contracts and the ordering of tools essential to the completion of both prime and subcontracts. Under the authority contained in section 303 (e) of the Defense Production Act of 1950, as amended, pool-order agreements were entered into by the General Services Administration at the direction of the Office of Defense Mobilization with a large number of machine-tool producers. Under these agreements the tool builders produced certain specified tools in designated quantities and the General Services Administration guaranteed their sale when completed. In the event such tools remained unsold, the Government was committed to buying them at a price which excludes the manufacturer's profit and selling expense.

At the peak of this program in December 1952, 115 such contracts had been entered into embracing 94,225 tools, having an aggregate acquisition value of $1,425 million. As of November 30, 1955, the Government's outlay under this commitment amounted to only $7,636,333 covering 578 units. Over 87,000 units have been sold to defense contractors and some 6,400 are accounted for by contract reductions, expirations, and cancellations. The net result of this program has consequently been the production and sale of over 87,000 tools, essential to an adequate mobilization base, at a cost to the Government of

less than six-tenths of 1 percent of their value. The kinds of tools provided by this program are shown in the table below:

POOL ORDER PROGRAM

Distribution of units purchased by the broad metalworking equipment categories

Equipment categories:	*Percent of total*[1]
Boring machines	6
Broaching machines	1
Drilling machines	9
Gear cutting and finishing machines	2
Grinding machines	21
Lathes	27
Milling machines	22
Planers	(2)
Miscellaneous machine tools	3
Total	100

[1] Adapted from NPA status report No. 17.
[2] Less than 0.5 percent.

All contracts under this program, embarked upon in October 1951 were completed during the fiscal year 1955. Out of the total delivered all but 825, costing $10,439,000 were purchased by private industry. Of the 825 tools acquired by the Government, 239 valued at $2,621,000 have been resold and 8 tools valued at $182,000 transferred to other programs. Left-over pool-order tools held in Government storage have been reduced by over 14 percent during the year ended November 30, 1955.

2. *Industrial leasing program.*—Under this part of the machine tool program, machine tools, and equipment are purchased and installed by the Government under leasing agreements with private defense contractors. Such agreements were entered into with producers of cutting tools, industrial gages, and machine tools, in order to provide these industries with added facilities for expanding production. The leased tools remain the property of the Government under the leasing agreements except in those instances in which purchase options included in the contracts are exercised by the lessees.

As of June 30, 1955, all contracts under this program, amounting to approximately $32 million and providing for the delivery of 2,368 units of equipment, had been completed. The General Services Administration negotiated 121 leasing contracts in order to carry this out.

Out of the 2,768 tools so far completed and delivered under this program, only 325 are currently in storage. A total of 2,333 remain in contractors' plants and continue to yield the Government a monthly rental under 93 leasing contracts. Of the remaining 110 units, 4 are accounted for by transfer to the national industrial equipment reserve and 106 by sale to contractors. It has been estimated that the total rental income earned on this equipment by the close of fiscal year 1956 will amount to approximately $12 million or over half of the cost of the program. It is a reasonable expectation, therefore, that in a few more years this

program will have paid for itself. The kinds of tools provided by this program are indicated in the following table:

INDUSTRIAL LEASING PROGRAM—NEW GOVERNMENT-OWNED TOOLS AND EQUIPMENT ACQUIRED FOR LEASING TO INDUSTRIAL ESTABLISHMENTS TO EXPAND THEIR CAPACITY TO PRODUCE

Distribution of units purchased by the broad metalworking equipment categories

Equipment categories	Percent of total tools and equipment [1]	Percent of total machine tools [1]
Boring machines	4.5	11.3
Broaching machines	.2	.5
Drilling machines	4.6	11.5
Gear cutting and finishing machines	1.6	4.0
Grinding machines	11.6	29.0
Lathes	6.8	17.0
Milling machines	7.1	17.7
Planers	1.4	3.5
Miscellaneous machine tools	2.2	5.5
Other miscellaneous equipment	[2] 60.0	[2] Omitted
Total machine tools		100.0
Total tools and equipment	100.0	

[1] Estimate based on GSA review of contracts.
[2] Represents only approximately 10 percent of dollar value.

3. *Elephant tool facilities expansion program.*—In order to provide an adequate number of unusually large multi-purpose precision machine tools needed for the accomplishment of known and anticipated defense-production needs, the General Services Administration was directed by the ODM to undertake a program to expand capacity to produce elephant tools. This program involves accelerated tax amortization, loan guaranties, installation of Government equipment under lease contracts, pool-order agreements, and working capital advances to manufacturers. As of December 1955 3 contracts had been entered into and completed under this program providing for the installation of 308 units of equipment valued at $4,407,000. All 308 units are delivered and under lease to elephant-tool producers. These 3 contracts are with the G. A. Gray Co. for 12 units, the Onsrud Machine Works, Inc. for 84 units, and Giddings & Lewis Machine Tool Co. for 212 units.

In the past 2 years there have been no elephant-tool builders interested in expanding their capacity under this program. It consequently appears that this program will come to a close with an accomplishment of substantially less than industry judgment indicated, when the program was begun. This has resulted in the initiating by the ODM of the elephant reserve program, described below, as a supplementary program to the elephant tool-facilities expansion program.

4. *Elephant tool reserve program.*—Many months ago the ODM initiated a survey of all known elephant tools in existence in the United States as one fundamental step toward arriving at a determination as to whether or not existing stocks of such tools are adequate to meet mobilization needs and consequently the extent to which Government-owned reserves of these large tools might be inadequate. With the assistance of the DOD, SBA, GSA, and BDSA there have now been developed and tabulated in preliminary form a number of pertinent facts from this census of elephant tools. Preliminary tabulations are now available showing total stocks and extent of Government and private ownership, by broad elephant-tool categories, by age, condition, extent of peak-period use, extent of anticipated direct-defense use and related information. Summary tabulations of existing stocks by elephant category, ownership, and condition follow.

Review of these data has shed important light on the adequacy of elephant tools. A considerably larger number of them are in existence than was anticipated. Also Government stocks are larger than expected. In addition, it seems clear from these data that existing elephants were not used to anything like capacity during the guns-and-butter Korean defense effort and that full use would probably not be the general situation under an all-out emergency. There consequently appears to be no need for any broad-gage program of Government-financed purchase of such tools. This perhaps explains why, under the elephant-tool facilities expansion program, mentioned above, there appeared to be no

more elephant-tool builders interested in expanding their facilities after the three existing contracts for this purpose had been negotiated.

TABLE I.—*Total United States stocks of elephant tools by types and by Government and private ownership*

Types of tools	Total United States stock	Privately owned		Government owned	
		Number	Percent	Number	Percent
1. Horizontal boring machines	245	147	60.0	98	40.0
2. Vertical boring machines	140	113	80.7	27	19.3
3. Radial drills	108	65	60.2	43	39.8
4. Gear generators, hobbers, shapers, and shavers	287	142	49.5	145	50.5
5. Cylindrical grinders	39	34	87.2	5	12.8
6. Lathes	228	150	65.8	78	34.2
7. Milling machines	28	27	96.4	1	3.6
8. Planers	175	139	79.4	36	20.6
9. Plate-edge planers	65	48	73.8	17	26.2
10. Shapers, draw cut	45	40	88.9	5	11.1
11. Slotters	20	17	85.0	3	15.0
12. Bending rolls	20	20	100.0	0	0
13. Bending and forming machines	10	8	80.0	2	20.0
14. Press brakes, power driven	102	34	33.3	68	66.7
15. Presses, hydraulic	179	41	22.9	138	77.1
16. Presses, mechanical	84	14	16.7	70	83.3
17. Other types	49	44	89.8	5	10.2
Total	1,824	1,083	59.4	741	40.6

TABLE II.—*Total United States stocks of elephant tools by types and condition*

Types of tools	Total United States stock	Condition							
		Good		Fair		Poor		Unknown	
		Number	Percent	Number	Percent	Number	Percent	Number	Percent
1. Horizontal boring machines	245	164	66.9	62	25.3	11	4.5	8	3.3
2. Vertical boring machines	140	68	48.6	49	35.0	18	12.8	5	3.6
3. Radial drills	108	67	62.0	16	14.8	3	2.8	22	20.4
4. Gear generators, hobbers shapers, and shavers	287	150	52.3	64	22.3	22	7.7	51	17.7
5. Cylindrical grinders	39	25	64.1	9	23.1	5	12.8	0	0
6. Lathes	228	115	50.4	69	30.3	30	13.2	14	6.1
7. Milling machines	28	14	50.0	13	46.4	1	3.6	0	0.0
8. Planers	175	74	42.3	75	42.9	17	9.7	9	5.1
9. Plate edge planers	65	26	40.0	26	40.0	6	9.2	7	10.8
10. Shapers, draw cut	45	22	48.9	17	37.8	6	13.3	0	0
11. Slotters	20	6	30.0	9	45.0	2	10.0	3	15.0
12. Bending rolls	20	14	70.0	3	15.0	3	15.0	0	0
13. Bending and forming machines	10	6	60.0	2	20.0	0	0	2	20.0
14. Press brakes, power driven	102	69	67.6	6	5.9	0	0	27	26.5
15. Presses, hydraulic	179	115	64.2	19	10.6	5	2.8	40	22.4
16. Presses, mechanical	84	59	70.2	14	16.7	1	1.2	10	11.9
17. Other types	49	25	51.0	21	42.9	3	6.1	0	0
Total	1,824	1,019	55.9	474	26.0	133	7.3	198	10.8

However, it appears to be a rather general belief that there probably are a number of isolated elephant deficiencies that are not revealed by the work done so far. Accordingly, the ODM has asked for a retabulation of elephant inventories which will reflect size and location, and has requested the BDSA to examine military machine-tool requirements by programs, in relation to elephant-tool capacity to meet such programs, with the objective of pinpointing specific deficiencies. Such deficiencies as may be established by this further study, the ODM plans to eliminate through enlarging, as necessary, the Government-owned elephant-tool reserves of the GSA by an allocation of borrowing authority funds for this purpose. It is expected that this latter phase of the program may be accomplished in the next 6 months.

5. *Controls over the leasing of Government-owned equipment.*—On October 9, 1953, the ODM issued Defense Mobilization Order VII–4, designed to prevent the dissipation of that part of the Nations' machine-tool mobilization base which is

Government-owned. Under the provisions of this order, Government-owned production equipment may be leased for nondefense production purposes only after specific proposals for such leasing have received the prior approval of the ODM. Following the issuance of this order, the ODM established a procedure for the submission and consideration of such leasing proposals. This procedure established the detailed information which each such proposal should contain and the interagency clearances to be effected prior to approval or denial. The objective in this effort has been to permit only such nondefense leasing for which it could be clearly established that it would be in the best interests of national defense and would serve to add to, rather than take away from, the Nation's industrial mobilization readiness.

Further experience has been gained on this during the past year and, as a result, it now appears that the existing policy and procedures have become more clearly understood and that the leasing of Government equipment for nondefense use is satisfactorily under control. From the issuance of DMO VII–4 through December 1955 the ODM received nondefense leasing proposals involving 77 companies and 2,266 items of equipment valued at $24,611,590. Out of these, the ODM has approved nondefense leasing to only 22 companies involving 815 items valued at $5,800,138. Requests were denied to 54 companies involving 266 items valued at $8,479,066. The 1,185 remaining items values at $10,332,386 are accounted for by proposal withdrawals after submission, embracing 547 items valued at $4,576,543, and pending cases involving 638 items valued at $5,755,843. From these facts it is evident that the leasing of Government-owned equipment for nondefense production purposes has been only a minor fraction of a percent of the estimated 400,000 items which the Government owns.

6. *Review of Government-owned equipment rental rates.*—Current estimates of the total stock of production equipment in existence in the United States reveal a total of approximately 2,500,000 items. Out of this the Federal Government owns an estimated 400,000 items, or 16 percent of the total. This means that as a direct result of three wars the United States Government has become the world's largest owner of production equipment. The bulk of this investment, representing upwards of $4 billion, is of course on lease to private industrial establishments engaging in defense production.

From time to time questions have been raised with respect to the adequacy of the rental rates at which the Government leases this publicly owned equipment to private industry. It has been alleged that the usual Government rental rate of 1 percent per month of acquisition cost gives competitive advantage to Government lessees. The ODM has explored this question and finds that Government rental rates appear to be both competitive and adequate when the several aspects of the matter are carefully weighed.

However, since the ODM does not own any equipment, it has a direct interest in leasing rates only to the extent that such rates have a bearing on ODM's primary responsibility in this area, the developing and maintaining of an adequate mobilization base to meet a full-scale emergency. It is, consequently, the ODM's position that it should concern itself over rental rates only in situations where such rates appear to be causal deterrents to reaching and maintaining mobilization base objectives. The establishment of a rental rate on an equipment lease should be regarded as an operational detail, best handled by the operating agencies of Government, unless and until the handling of such details impinges on major objectives and makes more definitive policy guidance necessary.

In this connection it is noteworthy that during the current year the DOD issued a revised regulation (DOD Instruction No. 4215.2 of January 14, 1955) which permits the charging of rates above 1 percent per month on equipment recently manufactured. Attention is directed to the permissive rather than mandatory character of this revised regulation.

7. *Central inventories of Government-owned production equipment.*—During the past year, the ODM has continued to sponsor and to cooperate with the Department of Defense in its efforts to establish a complete central inventory record of all machine tools and related production equipment owned by the Defense Establishment. The Department of Defense is believed to own over 350,000 items of equipment. These are scattered throughout numerous departmental depots and establishments and among thousands of private industrial plants. Despite the obvious difficulties in developing a central inventory under these circumstances, substantial progress has been made and records of approximately 278,000 items are now on hand in the Pentagon.

In addition to this growing but still incomplete inventory of DOD-owned tools, the ODM has, during the past year, attempted to obtain a complete inventory of

production equipment for all of the other principal equipment-owning agencies of the Federal Government in order to develop for the first time a complete tabulation of all such equipment. These latter data are now substantially complete. A preliminary table showing all Government-owned production equipment known to us at this time for central inventory purposes follows:

Preliminary inventory of all Government-owned production equipment

Owning agency	Number of items	Estimated value
DOD	[1] 277,700	[1] $2,927,801,000
Maritime	[2] 1,864	[2] 14,120,000
GSA	[2] 4,285	[2] 54,414,000
AEC	[2] 10,032	[2] 73,310,000
HEW	[2] 411	[2] 2,055,000
Total	294,292	3,071,700,000

[1] Incomplete at this time. See DOD time schedule for completion.
[2] Believed to be fairly complete but need further review and refinement.

Further work toward completion and refinement of these central inventory data will be carried on until the job is finished. Recently, each of the above agencies has reported to us the above items of equipment broken down into 83 standard commodity categories. As a result, we will soon know, in sufficient detail for many mobilization planning purposes, what these inventories consist of and what part of the total United States stock of each category they represent. It can, accordingly, be reported to the committee that substantial progress is being made in this task.

8. *M-Day machine-tool pool-order program.*—In an effort to develop a machine-tool pool-order program for trigger action in the event of a future emergency, so as to be spared the lost time and confusion incident to its development under emergency pressures, the ODM last February requested the GSA to prepare a standard pool-order contract form, for use in a future emergency, and to develop a tabulation of tools purchased under the Korean pool-order program, showing quantities and value by categories, contracted for, delivered to private industry, delivered to the GSA and undelivered on contract termination. Both of these have been supplied and made available to all of the equipment-owning agencies of the Federal Government for review and comment.

In addition, the proposed contract form has been discussed at several meetings of Government and industry representatives and is now in the process of being redrafted by representatives of the BDSA and GSA legal staffs. It is expected that this will soon result in a revised draft acceptable to all.

Concurrently, the Korean program data have been reviewed by the ODM and an analytical table prepared, duplicated, and transmitted to owning agencies for review and recommendation with respect to proposed M-Day purchasing schedules. This table, which is included below, shows contract obligations for 62 equipment categories by quantity and value, tools delivered to private purchasers under the program, delivered to GSA and undelivered at contract termination. This information will serve as a useful frame of reference from which future emergency M-Day purchasing schedules may be established.

It is expected that within the next several months all of the details of an M-Day pool-order program will be complete and available for use in a future emergency. The completion of this job will be a cooperative effort coordinated by the ODM and participated in by all of the principal production equipment-owning agencies as well as the BDSA and selected industry advisers. It is planned to finance the initial commitments under this program through an allocation of borrowing authority to the GSA.

9. *Production equipment surplus disposals.*—Defense Mobilization Order VII-1A provides for the submission, by the DOD to the ODM, prior to actual disposal, of all listings of production equipment which have been declared excess to the needs of the DOD together with a statment of the disposition proposed. This was designed to prevent the dissipation of the production equipment mobilization base through sales of items excess to the DOD but perhaps not surplus to the defense effort as a whole. Some difficulty has been experienced in satisfactorily implementing and carrying out this provision because it is not easy to mesh it in with existing excess and surplus clearance and disposal procedures prescribed for the general guidance of all Federal departments.

Analysis of Korean period machine-tool pool-order contracts and deliveries

Line No. and types of tools	SCC No.	Contract obligations		Shipped to private purchasers		Delivered to GSA		Undelivered on completion date	
		No.	Value	No.	Value	No.	Value	No.	Value
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1. Horizontal boring, drilling, and milling machines	34111	1,283	$68,256,013	1,154	$61,217,192	53	$2,221,518	76	$4,817,303
2. Vertical boring and turning mills	34112	682	35,392,810	611	31,108,884	23	1,244,680	48	3,039,246
3. Precision boring machinery	34113	855	15,392,190	837	15,186,465			18	205,725
4. Jig boring machines	34114	757	19,433,313	726	18,558,790			31	874,523
5. Boring machines, miscellaneous	34115	22	762,850	22	762,850				
6. Broaching machines	3412	1,107	24,093,420	966	20,436,721			141	3,656,699
7. Sensitive floor and pedestal drilling machines	34132	2,716	4,917,509	2,302	4,400,326			414	517,183
8. Upright type drilling machines	34133	1,818	10,187,819	1,646	9,036,848	66	453,483	106	697,488
9. Radial drilling machines	34134	2,725	32,325,971	2,629	31,058,649			96	1,267,322
10. Multiple spindle drilling machines	34135	259	3,219,058	209	2,551,168	13	127,149	37	540,741
11. Automatic drilling machines	34136	30	300,900	30	300,900				
12. Unit head and way type drilling machines	34137	102	5,677,475	93	5,060,475			9	617,000
13. Deep hole drilling machines	34138	217	4,285,573	198	3,999,545	17	260,951	2	25,077
14. Miscellaneous drilling machines	34139	230	4,577,898	199	4,072,493	13	461,305	18	44,100
15. Gear hobbing machines	34141	304	5,479,930	299	5,395,460			5	84,470
16. Gear shapers	34142	663	7,626,080	575	6,688,458			88	937,622
17. Bevel gear cutters	34144	195	2,642,749	158	1,969,046			37	673,703
18. Gear tooth finishing machines	34147	809	14,761,047	712	12,731,766	36	744,785	61	1,284,496
19. External cylindrical grinding machines	34151	5,473	94,513,293	5,157	88,634,023	3	107,900	313	5,771,370
20. Internal cylindrical grinding machines	34152	1,838	41,323,648	1,808	39,738,518			30	1,585,130
21. Surface grinders, rotary table type	34153	723	8,385,084	609	6,839,141			114	1,545,943
22. Surface grinders, reciprocating	34154	4,811	26,313,294	4,200	21,946,699			611	4,366,595
23. Disk grinders	34155	594	5,129,974	587	5,083,259			7	46,688
24. Thread grinders	34156	244	10,213,072	230	9,973,959	2	22,447	12	216,666
25. Tool and cutter grinders	34157	4,057	18,371,340	3,837	16,908,987			220	1,462,353
26. Bench, floor and snag grinders	34158	12	13,524	12	13,524				
27. Grinding machines, miscellaneous	34159	1,105	14,078,230	874	11,016,515	170	1,534,250	61	1,527,465
28. Bench lathes	34161	2,375	2,844,040	2,342	2,716,012			33	128,028
29. Floor, light duty, lathes	34162	5,265	17,996,267	5,265	17,996,267				
30. Heavy-duty engine lathes	34163	7,194	74,076,364	6,926	71,499,448	147	1,280,526	121	1,296,390
31. Turret lathes	34164	3,424	60,808,071	3,047	54,874,662	57	366,168	320	5,567,241
32. Automatic chucking lathes	34165	2,032	64,887,203	1,906	60,632,258	2	246,896	124	4,008,049
33. Automatic, between centers, chucking lathes	34166	1,299	21,072,075	1,238	19,758,618			61	1,313,457
34. Automatic screw machines, bar	34167	5,147	74,211,578	4,753	65,622,335	3	84,750	391	8,504,673
35. Lathes, miscellaneous	34169	424	12,545,174	404	11,907,744	2	44,190	18	593,240
36. Milling machines, bench type and hand millers	34171	242	1,146,498	218	929,581			24	216,917
37. Milling machines, knee type	34172	9,900	150,319,688	9,055	133,859,133			845	16,460,555
38. Ram-type, swivel-head, milling machines	34173	1,394	11,715,155	1,394	11,715,155				
39. Bed-type milling machines	34174	3,625	52,134,509	3,210	43,854,163	8	47,514	407	8,232,832

40. Planer-type milling machines	34175	41	10,500,000	29	7,740,000			12	2,760,000
41. Profiling machines and duplicators	34176	1,673	62,271,380	1,391	51,330,345	31	404,060	251	10,536,975
42. Die sinking machines	34177	138	2,519,540	132	2,429,540			6	90,000
43. Thread milling machines	34178	483	8,486,819	366	6,698,631	65	1,182,278	52	605,910
44. Miscellaneous milling machines	34179	820	9,018,084	790	7,595,469			30	1,422,615
45. Planers	3418	323	12,027,594	307	11,450,603			16	576,991
46. Miscellaneous machine tools	3419	3,602	25,593,925	3,366	24,171,622	72	266,067	164	1,156,236
47. Bending and forming machines	3441	1,647	66,289,417	1,646	66,264,744			1	24,673
48. Vertical, single-action, hydraulic, and pneumatic presses	34421	1,085	3,968,451	1,066	3,813,525			19	154,926
49. Miscellaneous hydraulic and pneumatic presses	34429	58	4,043,161	55	3,475,066	3	568,095		
50. Inclinable, single-action, mechanical presses	34431	36	380,024	36	380,024				
51. Vertical, straight-sided and arch-frame, single-action mechanical presses	34432	9	919,215	5	463,955			4	455,260
52. Manual presses	3444	3	46,326	3	46,326				
53. Plate shears, power driven	34453	413	5,515,553	413	5,515,553				
54. Forging machinery and hammers	3446	40	918,725	36	801,065			4	117,660
55. Riveting machines, squeeze type, automatic feed	34482	103	1,955,249	86	1,632,478	13	246,579	4	76,192
56. Hand welding and cutting torch outfits	34531	9	111,375	9	111,375				
57. Attachments, machine tool	34821	3,683	11,475,670	3,208	9,910,149	4	13,674	471	1,551,847
58. Balancing machines, static	56562	48	441,600	46	423,200			2	18,400
59. Balancing machines, combination dynamic and static	56563	442	9,716,500	432	9,374,000			10	342,500
60. Comparators	56571	1,555	5,484,248	1,555	5,484,248				
61. Gear measuring and testing machines	56572	653	3,450,850	632	3,377,842			21	73,008
62. Hob, worm, and cutter measuring machines	56573	232	595,420	229	584,725			3	10,695
63. Total, all codes		93,048	1,267,159,785	86,276	1,153,130,522	803	11,929,085	5,969	102,100,178

As a consequence, during the past year the ODM has supplemented this device with making spot checks upon items offered for sale as surplus at a number of depots and establishments. This effort has so far produced two pertinent results. In no instance, so far, has a spot check revealed that any of the equipment items being offered for sale were such that they should be retained as a part of the base. They have so far consisted of wornout or obsolete items or parts and auxiliary accessories for passé equipment.

However, these spot checks did reveal important loopholes in the clearance procedures and have now resulted in amended regulations designed to correct these deficiencies (DOD Instruction No. 4160.1, dated July 14, 1955, and DOD Instruction No. 4160.9, of June 24, 1955). These efforts to prevent surplus sales detrimental to the defense effort will be continued by all means available to us, until well rounded and adequate controls have been established over this potential leak in the mobilization base.

APPENDIX 5

UNITED STATES SENATE,
SELECT COMMITTEE ON SMALL BUSINESS,
September 16, 1955.

HON. THOMAS P. PIKE,
Assistant Secretary of Defense, Department of Defense,
Washington 25, D. C.

DEAR MR. SECRETARY: As you are aware, the Small Business Committee has long been interested in the soundness of the machine-tool industry. The vitality of this industry reflects not only upon our ability to produce for defense in a future emergency but upon the health of our small-business community. For these reasons I would appreciate full information as to the current status of Government programs and planning as they relate to the machine-tool industry.

In particular, I would appreciate answers to the following questions. I realize that many of these subjects were covered in your letter to Senator Thye of December 14, 1954. Inasmuch as some 9 months have elapsed since your letter, I believe it would be advisable to obtain an up-to-date report.

(1) *Status of inventory.*—The committee requires information as to efforts to develop and maintain an inventory of all Government-owned machine tools, including quantity, condition, and other pertinent data. Your estimates as to when a full inventory will be completed and the number of tools that will eventually be included would be helpful. A breakdown as between idle tools and those now in active production might also be useful.

(2) *Leasing.*—I would like a statement as to policies governing and the extent of leasing by the Government of its machine tools. I understand that the Department of Defense has issued a revised directive raising the rental rate to a level more nearly competitive with the cost to private industry. Information as to the effect of this directive is desired. It would appear that in addition to the unfair competitive advantage placed on those companies not having Government machine tools, that extensive leasing may serve to delay the purchase of higher efficiency machine tools by private industry. If this be the case, potential defense production in future emergencies would be correspondingly diminished and the capacity of the machine-tool industry correspondingly curtailed. Again the committee would appreciate your views as to the feasibility of removing the Government from the machine-tool leasing business by maintaining the Government inventory in an inactive status or in stockpile.

(3) *Mobilization planning and current problems.*—A current statement as to DOD plans for handling and distributing machine tools in a future emergency would be helpful. I would appreciate your views as to the desirability of maintaining the Government inventory at advanced efficiency through a program to replace a portion of this inventory each year with the most modern equipment available. I understand that technological advances in the last few years have produced machine tools with an efficiency level vastly greater than World War II and postwar models. A status report as to DOD plans for the procurement of long lead-time tools and other current and future problems is desired.

There is no disposition to limit your reply to the above questions as I am anxious to have the fullest possible expression of your views on this subject. Perhaps you would again be good enough to enclose copies of DOD directives where they would be helpful to us. I know of your interest in the problems of

small business and your willingness to cooperate with this committee. A reply at your earliest convenience would be appreciated.

Thank you for your cooperation in this matter.

Sincerely,

JOHN SPARKMAN, *Chairman.*

APPENDIX 5 (A)

ASSISTANT SECRETARY OF DEFENSE (SUPPLY AND LOGISTICS),
Washington 25, D. C., November 4, 1955.

Senator JOHN SPARKMAN,
Chairman, Select Committee on Small Business,
United States Senate, Washington, D. C.

DEAR SENATOR SPARKMAN: Your letter of September 16, 1955, asks for full information as to the current status of Government programs and planning as they relate to the machine-tool industry. Our statements which follow are in connection with the specific topics mentioned, but only for those programs within the Department of Defense. There are other Government programs and plans in connection with machine tools which we feel could be better described by the appropriate civilian agencies such as the Office of Defense Mobilization and the Business and Defense Services Administration.

(1) *Status of inventory.*—The latest figures now available are those showing inventory status as of September 1955. At that time, 277,682 metalworking machines, which originally cost over $500 had been listed. The total value of these is $2,927,801,115. Practically all of the machines listed up to now are those used in industrial activities of the military departments. An unknown quantity of machine tools owned by the Department of Defense are used in supply installations such as maintenance depots, mobile and floating repair shops. These machines have not been listed in the inventory because these types of installations did not utilize the standard commodity classification codes for cataloging their machines. A new Department of Defense instruction (4130.5) requires all Department of Defense agencies to use a "production equipment code." This is a management code combining the best features of the standard commodity classification code and the Federal supply classification. Through this means the barricade to inclusion of "supply" types of tools in the complete inventory has been lifted. It is estimated that the total number of machines in this category will represent less than 20 percent of the total Department of Defense holdings which are thought to be some three hundred to three hundred fifty thousand machines. Attached hereto is a table showing the inventory, as of the most recent date, broken down by types of machines.[1]

In order to facilitate redistribution of machine tools to production uses on a priority basis, we have established a central inventory wherein descriptive data on idle machine tools owned by the Department of Defense is maintained. Also included in the inventory is data on machines in the national industrial equipmet reserve under the custody of the General Services Administration. Through this medium, contractors of all three Departments are able to screen machine-tool resources of the entire Department of Defense, and tools can be made available quickly, thus minimizing the need for new procurement and the production delays which would otherwise be required through the delivery of new machines. At the present time, there are approximately 61,531 items listed in the central inventory. This figure is broken down into 20,827 Army items; 17,620 Navy items; 19,715 Air Force items; and 1,628 national industrial reserve items. A copy of Department of Defense Directive 4215.9, which governs the operation of the central inventory, is attached. (See Exhibit 2, p. 23.)

(2) *Leasing.*—The policies regarding leasing of machine tools for nondefense use are the same now as they were when we furnished information on this subject to Senator Thye in December of 1954. These are Office of Defense Mobilization Order VII–4 and Department of Defense Directive 4215.13 The directive covering rental rates to which you make reference, is Department of Defense Instruction 4215.2. The practical effect of this instruction is to raise our rental rates to a level more comparable to those charged by private industry.

We think the ideal situation is to get the Government completely out of the leasing business. On the other hand, we also strongly feel that our machine tools

---

[1] Retained in committee files.

should, whenever possible, be stored at the plant where they would be used in an emergency. We are backed up in this belief by the Vance committee's recommendation that we store productive capacity rather than end items. There are times when these two ideal situations are not compatible on a practical basis. Space, to an industrialist, must be considered from the standpoint of its earnings. Thus industry, when asked to store and maintain military-owned production equipment, often will do so only if utilization of the equipment for their civilian business is permitted. In the great majority of such cases, we remove the equipment and place it in central storage, but sometimes this is not possible. This is particularly true when the equipment is of a kind that cannot be removed without substantial loss of value or damage to itself or to the premises where it is installed. This is the type of case in which leasing presents the only practical solution. Furthermore, it is often advantageous to national defense in such cases to permit certain complementary equipment to remain. All such leases must be approved in advance by the Office of Defense Mobilization, which consults with other interested Government agencies such as the Small Business Administration and the Business and Defense Services Administration before granting an approval. These agencies weigh competitive advantages which might be offered against the national security aspects of the transaction. Up to the present time, 16 leases of DOD-owned equipment for use in nondefense production have been approved by the Office of Defense Mobilization. A list of these including other pertinent details is attached.[1]

(3) *Mobilization planning and current problems.*—Plans for handling and distributing machine tools in an emergency have changed very little since our letter to Senator Thye last December. BDSA Order M–41 remains in effect and in time of emergency would be the primary implement for controlling the distribution of machine tools. Our instruction 4215.1 directs the Departments to retain only that production equipment required to enable Government plants and planned suppliers to meet mobilization production schedules. It also permits retention of a certain amount of production equipment for which specific requirements have not yet arisen, but which the owning agency knows from historical experience will be needed in an emergency. No problem in distribution of this equipment is anticipated. The requirements for stored equipment are to be reviewed at least every 2 years. That equipment found to be no longer needed is to be disposed of if it cannot be reassigned for another mobilization production role. No specific replacement program on a Department-of-Defense-wide basis has been undertaken at this time. The Navy, Bureau of Ships, has initiated such a program on a limited scale. Many factors enter into such a program and it is being carefully watched by this office to determine its effectiveness, cost, and acceptance by the Bureau of the Budget and Congress.

We heartily agree that the technical advances made in the past few years have produced machines of vastly improved efficiency. Wherever possible, within our appropriations, we have attempted to procure such machines for current production programs. Furthermore, these advanced designs and efficiencies are given consideration in the replacement program which was just mentioned. Often one such machine can replace two or more earlier ones. We seriously doubt that it will ever be possible to obtain a complete reserve of such new machines because of the prohibitive cost. The Korean mobilization, however, brought a number of new machines into our reserve stocks and raised its efficiency to some extent. The long-lead-time equipment will also help. It must be remembered, however, that our machine-tool reserves are not supposed to be able to support a full-scale mobilization, except to the extent that they will be available as a stop gap until the machine-tool industry can begin to supply new machines at the rate demanded by wartime production programs.

We have, as you requested, tried to cover the points mentioned in your letter. It is regretted that there has been some delay, but we have deliberately waited until reports of inventory, which we receive semiannually, were tabulated. These were not received until mid-October. We have included copies of the appropriate directives, instructions, and orders, as well as certain other statistical data.[1] It is hoped that most of your questions have been answered, but we recognize the difficulty of explaining such a broad subject in a relatively few pages. We are quite proud of the progress that has been made in this field and

[1] Retained in committee files.

would be happy to answer any questions that we may have overlooked or which might come to mind in reviewing the facts set forth herein.

Sincerely yours,

T. P. PIKE.

APPENDIX 6

UNITED STATES SENATE,
SELECT COMMITTEE ON SMALL BUSINESS,
December 12, 1955.

Hon. F. H. HIGGINS,
Assistant Secretary of the Army,
The Pentagon Building, Washington 25, D. C.

MY DEAR MR. SECRETARY: As you are aware, the Senate Small Business Committee has long been interested in the soundness of the machine-tool industry. The vitality of this industry reflects not only upon our ability to produce for defense in a future emergency, but upon the health of our small business community as well. For those reasons, I would appreciate full information as to the current status of the Department of Army programs and planning as they relate to machine-tool industry.

I would appreciate a current status report as to the Department of Army contributions to the inventory of Government-owned machine tools. A report as to the status of Army mobilization plans in this vital area is also desired. I would be interested in a breakdown of the current inventory of Army-controlled tools as between those in active use, by leasing or otherwise, and idle in stockpile. Further, what is the status of Army thinking concerning the procurement of long-lead-time machine tools.

Would you please provide information as to the degree of obsolescence of Army machine-tool holdings. Your opinions as to the desirability of instituting a replacement program to ensure that machine tools and related resources are kept in a relatively modern condition would be helpful. I understand that technological advances in the last few years have resulted in the machine tools with an efficiency level vastly greater than World War II models. Is is possible that a realistic replacement program could achieve operating economics sufficient to be self-supporting while at the same time increasing our productive capacity in a future emergency?

There is no disposition to limit your reply to the above questions as I am anxious ot get the fullest possible expression of your views on this subject. Our experience during World War II, and later in Korea, clearly showed that a shortage of machine tools and deficiencies in mobilization planning were a deterrent to our defense production. Briefly, what I am now seeking to ascertain is where we now stand as to (1) the sufficiency of our current machine-tool inventory (2) the adequacy of mobilization plans to utilize these tools in a future emergency and (3) the desirability of instituting a replacement program to maintain the vigor of this asset.

In order that this information may be fully collated for the benefit of committee members, a reply by December 28 is required.

With kindest personal regards.

Sincerely yours,

JOHN SPARKMAN, *Chairman.*

APPENDIX 6 (A)

DEPARTMENT OF THE ARMY,
OFFICE OF THE ASSISTANT SECRETARY,
Washington, D. C., December 27, 1955.

Hon. JOHN SPARKMAN,
United States Senate.

DEAR SENATOR SPARKMAN: This is in reply to your letter of December 12, in which you requested information as to the sufficiency of the Army's current machine tool inventory, the adequacy of mobilization plans to utilize these tools in a future emergency, and the desirability of instituting a program for replacement of tools by more modern and efficient machines.

Your letter refers specifically to machine tools. However, because an adequate and balanced mobilization production base requires many other types of equip-

ment to be used in support of or in coordination with machine tools, our inventory is composed of all items falling within the more general category of "production equipment." For this reason, the statistics and discussion in this letter will be on the basis of the overall term.

The current inventory of Army production equipment is as follows:

	Items
In active defense production	159,523
Leased	3,363
Idle	169,320
Total	332,206

Equipment currently in active use for defense production may be located either in Government or private plants.

Leased items are in private plants, where they were utilized in the Korean emergency. The lessee in each case is a planned supplier in a future mobilization.

Idle equipment also is stored in both Government and private facilities. Except for items located in Government-owned and Government-operated plants, contractors placed the equipment in layaway and are responsible for its protection and maintenance in peacetime.

In selecting the locations and methods of layaway of equipment as it became idle after the Korean truce, the Army has followed the general policy established by the Office of Defense Mobilization in DMO VII–4, dated October 9, 1953.[1] In line with that policy, but subject to cost considerations, equipment has been placed in layaway and will be retained in the manner and at locations as listed below in the order of preference:

(*a*) In place, at site of use;
(*b*) In storage, as production units, at or near sites of use;
(*c*) In storage, as production units, in Government space;
(*d*) In storage, as individual items, in Government space.

The standby lines ((*a*) above) obviously offer the earliest production capabilities in a future emergency. They provide capacity for items which must be available in the shortest possible time after a future M-day. The contractors responsble for these lines have entered into signed agreements to activate and operate the equipment as necessary to meet defense needs. In some cases the Government equipment has to be supplemented with items owned by the contractors. The terms of their agreements require the contractors to keep their machines available and to operate them in conjunction with the Government-owned items as necessary for defense production.

The contractual terms for layaway of equipment stored at or near the sites of contractors' plants are substantially the same as for the standby lines. In a few cases it has been more economical in this type of layaway for the Army to construct storage warehouses adjacent to contractors' plants, with protection and maintenance provided by the contractors. Since reinstallation is necessary, on-site storage does not provide for production as quickly after M-day as does the standby line method.

If M-day production schedules permit, or if satisfactory terms for protection and maintenance cannot be negotiated with contractors, equipment is removed from private plants and placed in layaway at the nearest Government space as complete packages. In an emergency the packages will be returned to the contractors' plants and reactivated under terms of written agreements which have been negotiated.

In numerous instances, Korean emergency contractors were furnished limited numbers of machine tools or other equipment items needed to round out commercial lines being converted to defense production. As a rule, as they become idle these items are removed from the private plants and placed in the nearest available Government storage. The major portion of such equipment is designated for return to the plants from which removed, or to other plants with which industrial mobilization planning has been accomplished.

You will note that regardless of the location or manner of layaway as described in the preceding paragraphs, equipment is assigned to specific contractors for production of specific items, under written agreements which are effective immediately at the outset of a future period of mobilization. The only exceptions to this situation are:

(*a*) A limited number of general purpose machines for which there is no specific requirement under current plans, but for which there always is a large

[1] DMO VII–4 reproduced in this record as appendix 3, pp. 133–136.

demand in time of large-scale production. These machines are held for such use as may develop in the future.

(*b*) Equipment to be used for production in Government-owned and Government-operated plants. The only exception in these cases is that there is no mobilization planning with contractors because future operation will be by Government personnel. In all other respects the planning is substantially the same as where contractors are involved.

The question of whether the equipment reserve of the Army is sufficient to meet mobilization requirements cannot be answered without taking into consideration a number of other factors. Current planning is conducted on the premise that mobilization production readiness must be based on a combination of stocks of end items on hand ready for issue and a reserve of production capacity consisting of:

(*a*) Government-owned plants.

(*b*) Complete prduction lines in which all or a substantial portion of the equipment is owned by the Government but will be utilized by contractors in privately owned facilities.

(*c*) Privately owned facilities which will be converted to defense production in an emergency on the basis of schedules developed through industrial mobilization planning between contractors and the Government. In these facilities, all or most of the equipment is privately owned, although some individual items will be furnished from the Army reserve as necessary to round out production lines.

On the basis of guidelines currently available for planning purposes, I feel that the inventory of production equipment is substantially sufficient to provide for this aspect of the balanced mobilization readiness described in the preceding paragraph. There are some gaps which must be filled to round out production lines, and additional equipment will be needed to balance capacity for related components and end items required in equal quantities. The development of new weapons, or increased requirements for current weapons, may necessitate augmentation of the reserve from time to time. Future changes in planning guidance may create either shortages or excesses in the inventory. These are possibilities which cannot be anticipated at this time, however, and I must base my reply to your question on the guidelines under which we now plan.

Current acquisition of long lead-time equipment for mobilization use undoubtedly would expedite production in those areas where such machines as may be required are not available from the inventory. Because of the rapid and constant developments in weapons systems, however, the greatest care would have to be exercised in determining the programs for which current acquisition is justified. Furthermore, changes in planned procurement resulting from these developments might serve to make available, for production of new weapons, long lead-time equipment now being held for the manufacture of items which will be superseded. Still another consideration is the necessity for utilizing available funds in the manner calculated to make the greatest contribution to the defense effort. Decisions as to current purchase of long lead-time equipment must be made at a level above the Department of the Army.

The problem of obsolescence must be considered from two directions. First, there is the question of equipment becoming obsolete in the sense that it has been superseded by machines which can produce in greater quantity at lower cost. The second consideration is that of whether equipment used in the production of an end item which has become obsolete should be retained to produce new or different items for which the Army has supply responsibility.

The Army has taken the position that advancements in production equipment are so numerous and so continual that replacing reserve machines as soon as new and improved models become available is not practicable. Such a program eventually would result in replacement of previously acquired replacement items which never had been used. The policy of the Army is to retain each machine reserve for as long as the machine can produce, for a minimum of 1 year, the end item of supply which the equipment is to manufacture in a period of mobilization.

Machines in current production present a different situation, and unquestionably there will be instances in which the replacement of older and less efficient equipment is fully justified on the basis of operating economies. We try always to be alert to situations of this nature as part of a continuous program directed at providing the most defense at the least overall cost to the Government. Each individual replacement must be justified on its own merits, but there have been, and no doubt will continue to be, instances in which the cost of new equipment not only is self-liquidating on current production but also increases the capacity available for mobilization.

When an end item of supply is superseded, or for any other reason will not be required in a future emergency, all equipment being retained for production of the item immediately is surveyed to determine whether the equipment should be kept for mobilization production of another item or removed from the reserve for disposal action. This procedure assures retention of only that equipment which is essential to, and suitable for, meeting approved mobilization production requirements.

In summary, the status of the Army's production equipment inventory and planning for its use in mobilization is as follows:

(*a*) The equipment on hand is substantially sufficient when considered in conjunction with all other phases of the program for mobilization production readiness. Acquisition of some additional items will be necessary from time to time to provide for new requirements and to completely round out the production base.

(*b*) Layaway of equipment for mobilization use has been in accordance with policy guidelines established by the Office of Defense Mobilization and the Department of Defense, due consideration having been given to the factor of cost in final selection of the method and location of layaway.

(*c*) In planning for mobilization use of this inventory, each piece of equipment is designated for production of a specific item at a specific location, the only exception being a limited number of general purpose tools held for unforeseen requirements.

(*d*) The equipment reserve and mobilization plans for its use, including methods and locations of layaway, are subject to continuous review. Changes in the reserve structure are made as necessary to conform to latest war plans and to insure maximum defense returns at minimum cost.

(*e*) Although much of the equipment is not of the latest and most efficient models, each machine is capable of producing for at least 1 year the end item of supply to which it is related in mobilization planning.

(*f*) Equipment in active use should be, and is, replaced by more modern and efficient tools where replacement costs can be liquidated through operational economies on current production schedules.

(*g*) Wholesale replacement of idle equipment by the latest available models is not considered to be either essential or economically feasible.

(*h*) Current acquisition of some long lead time equipment would expedite production after M-day. The extent to which such a program is desirable and economically feasible is a matter for decision at a level higher than the Department of the Army

I am convinced that the current program of the Army to retain and to plan for mobilization use of its reserve of production equipment is based on sound business principles and, if continued, will substantially eliminate the production shortages which occurred immediately following our entry in World War II and after the outbreak of the Korean situation. This program, although subject to the strictest economy, will be relatively expensive. However, the cost of the program will be far less than the expense that would be involved in producing and storing a stock of finished munitions equivalent to the production which could be obtained from the equipment reserve between M-day and the date on which production would be possible without the reserve equipment. Moreover, munitions become obsolete more quickly than production equipment and also are expensive to store and maintain in peacetime.

I trust that the above provides the information you desire.

Sincerely yours,

F. H. HIGGINS,
Assictant Secretary of the Army (Logistics).

APPENDIX 7

THE NEED FOR A NATIONAL POLICY FOR THE MACHINE-TOOL INDUSTRY IN PEACE AND WAR: A PAPER FOR THE NATIONAL SECURITY COUNCIL [1]

SUMMARY

The machine-tool industry [2] respectfully requests the National Security Council to prepare for the consideration and approval of the President a national policy on machine tools. Without this policy "at the summit," the industry cannot continue in the state of health and readiness which the national security demands. Gen. William S. Knudsen declared: "Machine tools are the most essential item in the defense program." And yet this industry is oppressed with a multiplicity and complexity of problems, each being dealt with by a separate agency of Government, several of which are determining policy without regard to national defense considerations.

Without prompt attention and coordination at the highest level, this industry—and Government planning in regard to it—will relapse into the condition which produced the shortages and resultant tragic delays in equipping our fighting forces during the Second World War and the Korean war. Two lessons, paid for with so high a price, ought to be enough. The cost of another failure to learn the obvious may be incalculable.

The heart of the problem is that there is a great disparity between the peacetime demand for machine tools in the private domestic and foreign markets and the need for them in wartime. Production has to be increased to maximum capacity, and new capacity, excess to any peacetime need, has to be created. After the war the machines remain for a decade to flood the market and thus add to the problem of preserving an industry for a new crisis if and when it occurs. So a sound governmental policy is needed to establish wise defense programs, to give careful thought and planning to the holding or using of surplus tools, to help retain a foreign market which is rendered precarious by monetary and tariff barriers, to avoid reducing markets at home and abroad by the intervention of foreign companies financed by United States Government funds, and to use tax and other Government powers in accordance with and not against the defense interest.

The acts and programs which call for coordination or for review by Presidential Commissions or Committees lie mainly in six fields:

(*a*) *Building a mobilization base for future emergencies through the creation of permanent defense production capacity*

In 1953, the Advisory Committee on Production Equipment under the chairmanship of Mr. Harold S. Vance recommended annual governmental expenditures of from $500 million to $800 million for machine tools and other productive equipment then deemed essential to a mobilization base. Had this program been carried out, there would have been expenditures of from $1.5 billion to $2.4 billion during fiscal years 1954, 1955, and 1956. But nothing like these sums has thus far been expended or even appropriated, and we estimate that performance has fallen below plan by approximately $1.7 billion. This represents more than 2 years of production for the entire machine tool industry at the present rate.

(*b*) *The Government is in the machine tool business*

It owns around 400,000 machines valued conservatively at $2 billion, and it is under constant pressure to sell or lease them to private contractors for use in ordinary commercial business.

At the end of World War II, the machine tool industry was badly hurt by the sale of war surplus machines at fractions of their actual value. The most careful management of the huge Government inventory is essential in order to prevent a repetition of the postwar machine tool depression and a consequent weakening of the industry's capabilities in any future emergency.

---

[1] From National Machine Tool Builders' Association and American Machine Tool Distributors' Association, July 1, 1955.

[2] Represented by the National Machine Tool Builders' Association and the American Machine Tool Distributors' Association whose members account for the manufacture or sale of all but a small portion of the country's machine tools.

(c) *The machine tool industry is progressively losing its traditional export markets*

Foreign machine tools are being imported into this country at 12 times the pre-Korean rate. United States machine tool companies are establishing facilities abroad to take advantage of the conditions which favor their foreign competitors.

The result of this entire process is a weakening of the United States machine tool industry and a loss of machine tool capacity which the country cannot afford. While in some measure it is the consequence of wage differentials which permit foreign companies to offer prices as little as 36 percent of the price of a comparable United States machine, United States manufacturers also face exchange control difficulties, tariff and customs barriers, difficulty in meeting the credit terms offered by foreign competitors with the assistance of their governments, and finally the recent relaxation of the Buy American Act. It is in these areas that there should be prompt and effective action directed from the highest level of the Government.

(d) *Machine tool obsolescence is a very serious factor in our national security*

Today more than half the machine tools in service are more than 10 years old and more than a fifth are more than 20 years old.

The administration's tax depreciation policies are designed to help modernize the machines of American industry. This was the main purpose of the provisions of the Internal Revenue Code of 1954 relating to the double-declining-balance and the sum-of-the-years digits methods of depreciation. Moreover, the Treasury Department's increasing awareness of the importance of obsolescence of both machine tools and the products they produce constitutes another step in this direction.

At the present session of the Congress there has been a movement to repeal the depreciation provisions added by the 1954 Code. These provisions are among the most necessary of the 1954 revisions. In the interest of national security, they should not be repealed. It is important that our defense industries remain modernized and ready. Even with the revisions, the United States has a more restricted depreciation policy than many other countries. A return to the tax depreciation policy of the thirties and forties would mean increasingly inadequate reserves for replacement and modernization of obsolete plant and equipment.

(e) *There have also been some suggestions at the present session of Congress looking forward to the repeal of the 1954 amendments to the Renegotiation Act of 1951, which for the first time made it possible for the Renegotiation Board to renegotiate sales of long-life new durable productive equipment (including machine tools) on a basis comparable with expendible and perishable items*

These provisions are also important parts of the national security structure and they should not be repealed. Without them machine tool companies might be subjected to severe renegotiation refunds comparable to the refunds of World War II. The weakness of the machine tool industry on the day Korea was invaded was partly attributable to World War II renegotiation refunds which were required without regard to the fact that the machine tools would only be used for a small period of their life on defense business and would saturate the builders' postwar market.

(f) *The machine tool crises of World War II and the Korean war came from a lack of mobilization planning*

In the latter case it was more than a year after the attack on South Korea before there were acceptable priority and price control procedures. Many of the industry's procurement problems were never satisfactorily solved. The vital nucleus of younger, highly skilled engineers and workers was decimated by the draft, thus slowing down the initial production momentum. Today there are men in government and the industry who have learned from these bitter experiences and whose advice would be most helpful. If this experience is not used while it can be, once again the country will return to that state of ignorance where it must build priority, price control, pool order, accelerated amorization, manpower, and other programs from the very beginning, and after the emergency is upon us.

We discuss each of these areas and our recommendations below. The recommendations are summarized on pages 66 to 69.

I. MACHINE TOOLS IN NATIONAL DEFENSE—TWICE IS ENOUGH

Machine tools are the "master tools of industry." They are the machines that make all machines. They differ from other industrial and production equipment in that they alone can reproduce themselves. Thus everything made of metal is made on machine tools or on equipment made on machine tools. This is as true of automobiles, tractors, or refrigerators for the civilian as of the aircraft, tanks, or metal weapons for the soldier.

The vast improvement in the American standard of living during this century is largely due to machine tools. In the last century what are today common articles of household equipment were too costly for the average home, since they were made almost entirely by hand. But machine tools could make identical metal parts in great numbers, and so the sewing machine became a household commonplace in every land. Without machine tools, the country would still be in the economy of the Civil War.

A few figures show the revolutionary improvement in these machines. In 1900, the best machines using mushet steel cutting tools cut away a maximum of 200 pounds of metal an hour. In 1910, with high-speed steel, machines could cut 500 pounds an hour. Then in 1930, super-high-speed steel cut 840 pounds an hour. And in 1942 sintered carbide tools reached 1,400 pounds an hour. World War II was fought on one-third fewer machines than would have been possible in the previous decade.[3]

Today, machines embodying automation are even more productive, and precisions down to hundred thousandths and millionths of an inch are achieved. These machines make possible greater capacity for defense and a generally expanded economy. This in turn means more goods for more people, and more taxable income.

Although for tax or other purposes, it is sometimes said that machine tools have useful lives of 25 years or more, a company with machines of the 1930's or even the 1940's cannot possibly compete effectively with a company having modern machines. Similarly, this country cannot compete with other countries, or maintain its relative defense strength, if its industries do not have the most modern machine tools. The United States will inevitably decline in absolute and relative power unless its machine tool industry leads the industries of other countries in design and manufacture.

Units and value of machine-tool tool shipments—Metal cutting types only

Years	Shipments		Years	Shipments	
	Units	Amount		Units	Amount
1919	99,000	$161,000,000	1937	55,000	$195,000,000
1920	79,000	151,500,000	1938	34,000	145,000,000
1921	21,000	38,000,000	1939	51,500	200,000,000
1922	28,500	43,300,000	1940	110,000	440,000,000
1923	36,000	79,300,000	1941 [1]	185,000	775,000,000
1924	25,000	69,600,000	1942 [1]	307,000	1,320,000,000
1925	31,000	86,700,000	1943 [1]	266,000	1,180,000,000
1926	36,500	105,000,000	1944 [1]	136,000	497,000,000
1927	28,000	87,000,000	1945 [1]	103,000	423,700,000
1928	36,000	128,000,000	1946	75,000	334,800,000
1929	50,000	185,000,000	1947	60,000	306,000,000
1930	23,500	96,000,000	1948	50,000	288,450,000
1931	12,000	51,000,000	1949	34,500	249,150,000
1932	5,500	22,000,000	1950	41,500	305,550,000
1933	6,000	25,000,000	1951	70,800	632,250,000
1934	13,500	50,000,000	1952	96,800	1,125,900,000
1935	23,000	85,000,000	1953	91,500	1,191,200,000
1936	40,000	133,000,000	1954	58,500	891,750,000

[1] War Production Board estimates, 1941 through July 1945. All other years estimated from reports to the National Machine Tool Builders' Association.

World War II

Before World War II, the importance of machine tools in the national defense was not understood. The machine-tool industry sank to a level where it pro-

[3] An Engineering Interpretation of the Economic and Financial Aspects of American Industry-Machine Tools, George S. Armstrong Co.

duced only 34,000 metal-cutting machines in 1938, the year of Munich.[4] In 1942, only 4 years later, urgent orders were placed for more than 400,000 machines of this type. But the capacity to produce them and others did not exist. Lack of machine tools became the inevitable and critical impediment to war production. In contrast, in 1938, the German machine-tool industry shipped five times as many machines as the United States industry. As a result, Germany went through the war without the crisis which bogged down the United States production.[5]

Luckily, after Munich, the country was saved from the full consequences of its shortsightedness and neglect by French and British war orders both for United States machine tools and for military products which required machine tools for their production. By 1940, the production of 1938 had been tripled, largely as a result of these war orders. In 1941, it was five and a half times 1938 production. Meanwhile, the Government was beginning to be told the importance of machine tools. In 1940, shortly after he came to Washington to take charge of defense production, Mr. William S. Knudsen declared: "Machine tools are the most essential item in the defense program."[6]

Once the country was at war, the pressure for machine tools increased by leaps and bounds. In 1942 the previous alltime production high of 1941 was almost doubled. If production in 1941 could have been what it was in 1942, critical delays in the creation of fighting forces might have been avoided. As it was, a year elapsed between the time when machine-tool shipments reached their peak and the time when the manufacture of aircraft, tanks, and guns reached their peak. If one goes further back to the peak of machine-tool orders (as distinct from shipments), the elapsed time will be from a year-and-a-half to 2 years. Some vital programs were held up even longer by the lack of special machines.

The relationship between machine tools and military strategy is well illustrated by the case of the 20th Air Force attacks on Japan. Our capability for those attacks depended upon the B–29 airplane. But the B–29 was in turn dependent on the R–3350 engine, and that engine could not be produced in proper volume without special vertical ram-type milling machines for machining the suspension pads on the supercharger front housing. The manufacturer tooled for the R–3350 on an emergency basis with general-purpose machines, but the lack of the milling machines delayed the entire program, and the striking power of the 20th Air Force was correspondingly reduced and delayed.

The postwar machine-tool depression

When the war was finally won, the United States machine-tool industry had manufactured a total of 1,107,000 metal-cutting machines costing $4.6 billion during the period 1940–45. This was more than had been manufactured since the turn of the century in a period during which the country's basic industries were first tooled for mass production. The great majority of these machines were neither obsolete nor worn out on VJ–Day. A large part of them belonged to the Government. The Government sold a large part of its inventory as "war surplus" at prices of as little as 10 percent of original cost. In all, some 235,000 "surplus" machines, or about 7 times the total produced in 1938, were thrown on the already saturated market. The effect on the industry was nearly disastrous. Before the depression ended, 57 companies went out of business. Of these 57 companies, 38 were liquidated and their capacity was lost to the national security; the remaining 19 were absorbed by other companies and some but by no means of all of their capacity was preserved. Many other companies that survived actual bankruptcy were seriously weakened. In the third quarter of 1949, the industry reached a 10-year low. When, 9 months later, South Korea was invaded, the industry was still a sick one.

Crisis during the Korean war

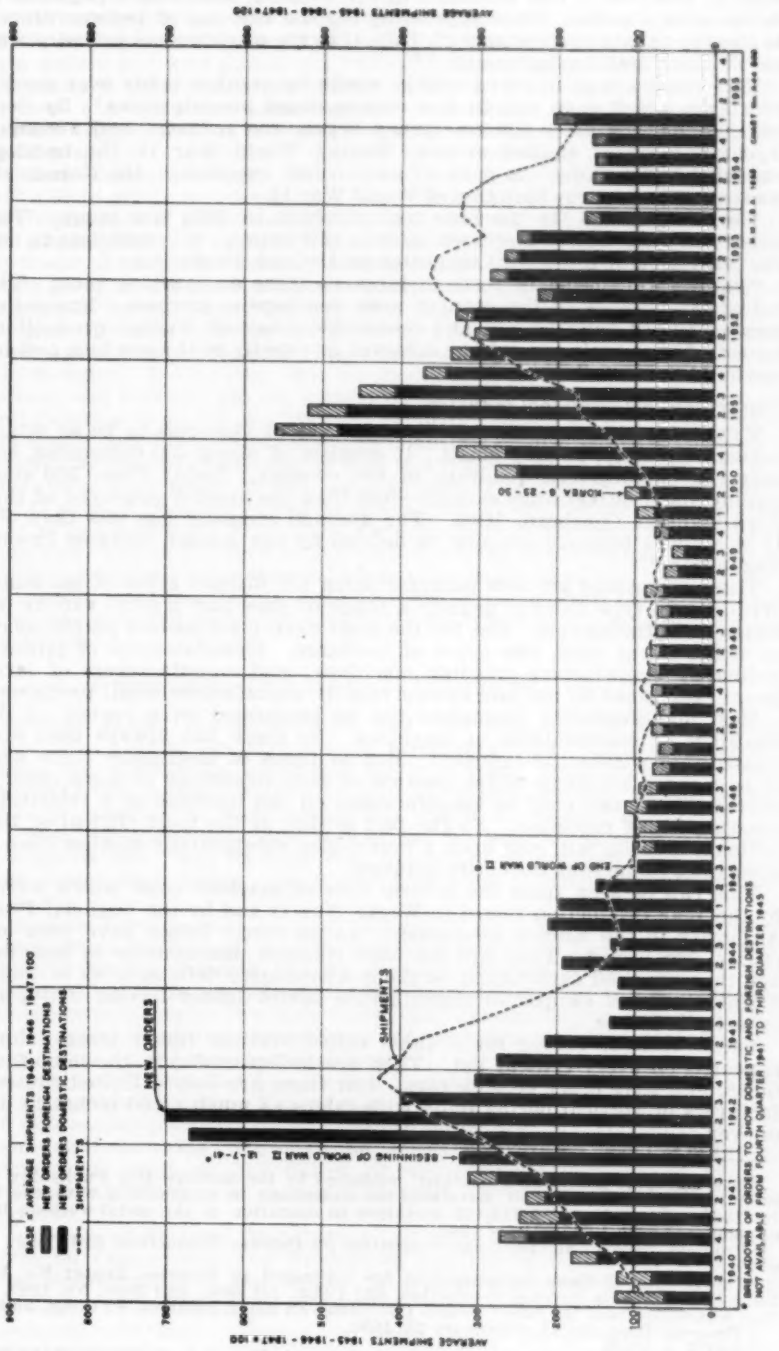
Despite this deplorable situation, which seems so plain in retrospect, machine tools were not treated as presenting any serious problem at the beginning of the

---

[4] See table. It should be noted that there are two basic types of machine tools: (1) Metal-cutting machines (lathes, boring mills, drill presses, milling machines, etc.); and (2) metal-forming machines (presses, hammers, shears, etc.) The statistics on the metal-cutting types are more complete, and for this reason they are used throughout this paper. The available figures on metal-forming machines show the same trends as do the statistics on metal-cutting machines.

[5] United States Strategic Bombing Survey, monograph on the German Machine-Tool Industry, p. 3.

[6] Finney, Arsenal of Democracy, p. 46.


QUARTERLY INDEX OF NEW ORDERS AND SHIPMENTS OF MACHINE TOOLS
BASE = AVERAGE SHIPMENTS 1945 - 1946 - 1947 = 100
NEW ORDERS FOREIGN DESTINATIONS
NEW ORDERS DOMESTIC DESTINATIONS
SHIPMENTS
NEW ORDERS
SHIPMENTS
BEGINNING OF WORLD WAR II (I-7-41)*
2ND OF WORLD WAR II
KOREA 6-25-50
AVERAGE SHIPMENTS 1945 - 1946 - 1947 = 100
* BREAKDOWN OF ORDERS TO SHOW DOMESTIC AND FOREIGN DESTINATIONS NOT AVAILABLE FROM FOURTH QUARTER 1941 TO THIRD QUARTER 1945

Korean emergency. There were close to twice as many machines in industrial plants as there had been on the day of Pearl Harbor,[7] and there were also substantial reserves of idle machines in the national industrial equipment reserve. It was this situation which apparently led the Director of Defense Mobilization to observe as late as February 22, 1951, that the machine-tool industry was "only one of about 7,000 having trouble." [8]

This remark was followed within weeks by another crisis over machine-tool shortages which gave rise to two congressional investigations.[9] By September 1951, 14 months after the emergency began, the industry had accumulated a 2-year backlog of unfilled orders. During World War II, the backlog never exceeded 13.4 months. In spite of such recent experienec, the Korean shortage was even more serious than that of World War II.

The reasons for the machine tool shortage in 1951 are many. The more important ones will be discussed later in this paper. It is sufficient to note here the conclusion of the Joint Committee on Defense Production: [10]

"Our Nation's security rests in large measure on machine tools. The total industrial capacity of the country must continue to increase. Expanding military schedules must be met and reasonable levels of civilian production maintained. These goals can only be achieved as rapidly as the machine-tool industry can build the tools."

The present machine-tool industry

This industry, found by a joint committee of Congress to be so vital to the national security, is very small. It consists of about 350 companies, scattered over the northeastern quadrant of the country. Today these 350 companies employ about 50,000 wage earners—less than the number employed at the single Ford plant at Dearborn, Mich. The average company has less than 500 men. It is a small business concern as defined by the Armed Services Procurement Regulation.[11]

These companies are now manufacturing 450 distinct types of machine tools.[12] Within each type there is usually a range of sizes and a great variety of accessories and attachments. But for the most part, machine-tool plants concentrate on single or, at most, two types of machines. Manufacturers of lathes do not ordinarily manufacture grinding machines; and manufacturers of large "elephant" machines do not and cannot readily manufacture small precision lathes.

Most manufacturing operations can be performed on a variety of different machines or combinations of machines. So there has always been strenuous competition within the industry. But in times of emergency there are likely to be many vital items which because of size, tolerances or some other special characteristic, can only be manufactured on one machine or a relatively small combination of machines. So the fact is that at the most critical of times the national security will rest upon a foundation substantially smaller than the 350 companies comprising the entire industry.

This can be seen from the critical lists of machine tools which were issued by the War Production Board in World War II and by the National Production Authority in the Korean emergency. Large turret lathes have been on every critical list issued. They are the least common denominator of metalworking, and they are used particularly in shops where large defense work is done. Only 3 United States companies manufacture turret lathes having a 3½-inch bar capacity or larger.

Large vertical boring mills (also called vertical turret lathes) have also appeared on every critical list. They are indispensable in the manufacture of tanks, and have other defense uses. But there are only 4 United States manufacturers of vertical boring mills with tables as much as 60 inches in diameter or over.

---

[7] The magazine American Machinist, published by the McGraw-Hill Publishing Co., Inc., conducts regular surveys of metalworking equipment in cooperation with the industry. Its 1950 survey showed 2,233,422 machines in operation in the metal-working industries as compared with 1,247,231 for 1940.

[8] Progress Report. No. 13, Joint Committee on Defense Production, 82d Cong., 2d sess., p. 27.

[9] The results of these investigations are contained in Progress Report No. 13 of the Joint Committee on Defense Production, 82d Cong., 1st sess., and Rept. No. 1988, Machine Tool Shortages from the Select Senate Committee on Small Business, 82 Cong., 2d sess.

[10] Progress Rept. No. 13 of January 23, 1952.

[11] ASPR 1–302.3.

[12] The latest edition of the Department of Defense's Directory of Metalworking Machinery lists 441 separate types.

Large horizontal boring machines, of which there are only five United States manufacturers, have the same critical rating. So do large radial drilling machines, of which there are only two manufacturers.

As aircraft become larger and faster and as the heavy, press program makes possible the employment of larger and larger forgings in airframe manufacture, large skin millers and spar millers are becoming increasingly important. If war were to break out tomorrow, these machines would be among the most critical. And yet there are only a few manufacturers or potential manufacturers.

We are not suggesting that defense production is helpless without the handful of companies we have mentioned. Some of these operations can be tooled with other but less-efficient machines. But the result is to make still other machines "critical" and to waste manpower at a time when skilled manpower is critical. Since the importance of particular types of machines will change with changes in military requirements, it is impossible to predict just what segment of the industry would be most critical in a new emergency. But one can be certain that within this group of 350 small companies there are a handful, no one knows just which ones, which would be of the very first importance in any new emergency.

It has been said that machine-tool problems are World War II problems and that a shortage of them would have little significance in a nuclear war of a month or two in duration. Perhaps so. But we should hope and believe that our country's defense and survival are not pinned on any such apocalptical notions. It is not our function to advise the National Security Council on war plans, but to point out that if they involve the use of this country's great productive capacity—and it would be altogether amazing if they did not—machine tools, not yet produced, will lie at their heart. If this is so, the industry cannot be allowed to drift into a state of total unpreparedness as has occurred twice before. The country was lucky twice: once when British and French orders helped build up the industry before war came to us; once by the limited nature of the war in Korea. As the Joint Congressional Committee on Defense Production observed, "Our Nation's security rests in large measure on machine tools." [13] A national policy for maintaining an adequate and expandable machine-tool industry is a necessity for our national defense.

II. A DEFENSE POSTURE FOR THE MACHINE-TOOL INDUSTRY

The problem facing the Government and the companies is a very simple one. It is this: Left to the economics of emergency boom and post-emergency depression, the machine-tool industry in the present twilight zone between peace and war will contract below the point of national safety. It will become too small to permit that rapid expansion which a national emergency will require. The industry cannot and should not be kept at an emergency size. No one suggests this. But its basic size, its annual production, must be larger and more varied than purely commercial purchases at home and abroad will make possible.

This involves three policies or programs which are wholly within the capacity of the Federal Government and its budgetary and other plans. They involve a stimulation of the domestic market through defense preparation; a wise and restrained policy in not destroying the domestic market through dumping Government-owned surplus machine tools; and discriminating help in holding the foreign market against competition of our own governmental creation. We deal with the first of these in this chapter.

The present administration has made a beginning on a mobilization base of defense production capacity. The beginning consists in having an idea based upon an able committee study under the chairmanship of Mr. Harold S. Vance.[14]

But an idea is one thing. Its execution is another. In this case the difference may come to as much as $1.7 billion of recommended Government machine tool procurement which now cannot take place during the fiscal years 1954, 1955, and 1956.

The Director of Defense Mobilization recently appointed a new Advisory Committee on Components and Production Equipment which will also serve under the chairmanship of Mr. Vance. It is urgently required that this Com-

---

[13] Progress Rept. 13, Joint Committee on Defense Production, 82d Cong., 2d sess., p. 1.

[14] Production Capacity: A Military Reserve, a report to the Director of Defense Mobilization by the Advisory Committee on Production Equipment, January 1953 (reproduced in this record as Appendix 1, p. 115).

mittee report to the National Security Council as to why the prior recommendations have not been fully carried out.[15]

The Vance plan

The Vance plan of 1953 was that production capacity should be substituted for the stockpiling of military end items to the extent practicable.[16] This was recognition of such a simple and obvious fact as that the capacity to produce jet aircraft at the beginning of the Korean emergency would have been more valuable than the stockpiles of World War II piston types that actually existed. Similarly, the capacity to produce the intercontinental bombers and guided missiles of the future is now more important than a stockpile of the aircraft employed in Korea. For the days immediately following the outbreak of war the Vance committee recognized, of course, that there must be stocks of military end items sufficient to equip all military forces called into service and to supply them with adequate operational reserves.

The Vance plan called for—

1. An increase in defense production capacity by the purchase now of machines taking a long time to build and of machines which were both scarce and essential.

2. The maintenance of existing and projected productive capacity in a state of modernization and readiness.

3. An increase in the country's capacity to produce very large and complicated general-purpose machine tools known as elephants. As will be pointed out, the committee did not make any special recommendation about the immediate purchase of elephant machines themselves, although the purchase of some was contemplated as a part of the program for increased capacity.

The Vance committee also stated emphatically that defense capacity cannot be maintained without a healthy machine-tool industry. It estimated that annual production of between 800 and 1,100 million dollars of machine tools a year would maintain the industry at the necessary strength. It forecast that this level of production would be maintained if its plan were superimposed upon expected civilian requirements. The committee placed such civilian requirements at $300 million a year; it felt that another 500 to 800 million dollars would be necessary to create and maintain the proper defense production capacity in the necessary state of modernization and readiness.

Progress under the Vance plan

1. *Increased defense production capacity.*—Shortly after the Vance committee made its reports, the Defense Department asked the House Appropriations Committee for $500 million for fiscal 1954 with which to carry out the proposal for an increase in defense production capacity.

Almost immediately, the request ran into congressional opposition primarily because there were no completed plans or estimates about how the money would be spent.[17] The mere idea of creating defense-production capacity was thought too vague to support the appropriation requested. So it was suggested that the Defense Department should complete its plans and then ask for the money to carry them out. The outcome was an appropriation of $250 million instead of $500 million in the final Defense Department Appropriation Act for fiscal 1954.

Then came the problem of translating the $250 million appropriation into machine tools. As the fiscal year approached an end, not a dollar of this appropria-

---

[15] The Vance plan contemplated annual Government expenditures of from $200 to $500 million for increased defense production capacity and $300 million of annual expenditures to maintain existing capacity in a state of moderation and readiness. The plan thus called for a minimum governmental expenditure of $1.5 billion and a maximum of $2.4 billion over a 3-year period. But Vance plan appropriations have thus far amounted to only $100 million, with an additional $100 million requested for fiscal 1956. The difference between maximum planned expenditures of $2.4 and actual appropriations and requested appropriations of $200 million is therefore $2.2 billion. This difference, however, should be reduced by the amounts expended for maintenance out of other appropriations. The industry is not in a position to estimate these expenditures accurately, but $500 million would seem to constitute a conservative figure. If this is a correct estimate, the difference between maximum recommended Government expenditures and actual expenditures plus appropriations and requested appropriations is $1.7 billion.

[16] Report of Advisory Committee on Production Equipment to the Director of Defense Administration dated January 12, 1953, p. 4. (Reproduced in this record as appendix 1, p. 115.)

[17] See for example the colloquy between Secretary Wilson and Congressman Taber which is reported at pp. 363–364 of the hearings before subcommittee of the House Committee on Appropriations on the Department of Defense Appropriations Act of 1954 (83d Cong., 1st sess.).

tion had been expended or even obligated. The Defense Department made a last minute effort to save the appropriation from lapsing. It was ultimately able to salvage $100 million for "reserve tools and facilities" in the Defense Department Appropriation Act of 1955.

The Department has recently asked the Congress for an additional $100 million for fiscal 1956, and it is to be hoped that this sum will be appropriated. For the fiscal years 1954–56, therefore, $200 million should be available for increased defense production capacity. But the Vance committee had recommended appropriations ranging from $600 million to $1.5 billion for this purpose [18] during the same period.

As we understand it, the Defense Department now plans to obligate part of the $100 million appropriated for fiscal 1955 before June 30, and the remainder within fiscal 1956. Approximately $84 million of this $100 million has been assigned to the Air Force, about $14 million to the Navy, and $2 million to the Army. The Air Force plans to concentrate the expenditure upon special machines requiring long production time of the kind used in airframe and aircraft engine manufacture. The $100 million program apparently will not cover the procurement of any substantial number of general purpose machine tools of the kind which were particularly critical in the initial stages of both World War II and the Korean emergency. Only about 60 of the 350 companies comprising the industry will be affected by the $100 million program. And the Air Force estimates that it will provide only about 10 percent of its long-lead-time equipment requirements.[19]

Nothing is known about the Defense Department's plans for expending the $100 million requested for fiscal 1956.

It must be recognized that actual accomplishment is a long way from the original program. More than 2 years have elapsed between the Vance plan and the expenditure of the first dollar on an actual order. The lag between the plan and an actual shipment will be even greater. And the gap between dollars recommended and dollars appropriated is greatest of all. Furthermore, only a relatively few companies will receive orders under the $100 million program, and in consequence, the strength of the industry generally will not be increased.

2. *The special case of elephant machines.*—Besides recommending an increase in defense production capacity, the Vance committee also recommended an increase in capacity for elephant machine-tool production. But the problems of elephant machine tools are special in character and have not been fully dealt with either in the initial Vance plan or in the existing $100 million program.

The elephant machines are very large, general-purpose machines. "Elephants" for present purposes are machines such as: [20]

Vertical boring and turning mills with 16-foot-diameter swing, and larger.
Lathes with 76-inch swing and larger.
Planers, special planers, and planer-type millers with 120-inch width between housings.

They are big machines. Some weigh more than 400 tons and require from 8 to 10 railroad cars for shipment.

Today, and for many years past, the trend in metalworking has been in the direction of larger and larger machine tools and work pieces. In the atomic energy program in particular, there has been an increasing demand for larger and larger equipment. In aircraft design, the heavy press program has furnished a dramatic example of the need for large equipment. Right behind the heavy presses one finds the large, heavy, hard-to-build elephant machine tools.

By virtue of their very size, many components of elephant machines have to be built on elephant machines, and any shortages are therefore likely to be compounded. For example, there is only one 96-inch spiral bevel gear generator in the United States, and that one machine cuts all the big table-drive gears for every very large vertical boring and turning mill made in this country. These large mills are key machines in the manufacture of materials for the Atomic Energy Commission, and large-size aircraft components, tanks, and gun mounts. Our entire aircraft and tank program in time of emergency now depends upon this single 96-inch gear generator.

---

[18] In addition, of course, the committee recommended annual expenditures of $300 million a year to keep the mobilization base in a state of readiness.

[19] Hearings before the subcommittee of the House Committee on Appropriations on Air Force Appropriations, 84th Cong., 1st sess., p. 462.

[20] The Business and Defense Services Administration of the Department of Commerce is now conducting a survey covering 14 different types of elephant or superelephant machines. (See form BDSAF–277.)

As has been mentioned, the Vance committee recognized the elephant-tool problem, and it suggested as one solution that the country's capacity for elephant machines should be increased, by direct subsidy if need be. Pursuant to this suggestion, the General Services Administration, in cooperation with the Department of Commerce, has already leased some equipment to elephant-tool manufacturers to permit them to expand their capacity. This is a step in the right direction, but in addition a substantial number of elephant machines should be ordered now.

It is understood that the Office of Defense Mobilization and the Department of Commerce are in the process of surveying existing elephant machines and that a program may be inaugurated for the procurement of some $40 million of such machines. Again, this is a step in the right direction, but it is believed that there is a need for a much larger program.

Recommendation

The discrepancy between the Vance program and its performance demands investigation by the National Security Council.

It has been suggested that the discrepancy is explicable in terms of a change in military requirements resulting from our entrance into a period of relative atomic plenty. In such a period, it is said, our main reliance must be on powerful forces in being rather than on productive capacity. And it is of course plain that we cannot now rely on the latent productive capacity which carried the country through the two world wars.[21]

Actually, it would appear that the possibility of a fast-moving nuclear war has increased the necessity for ready productive capacity. And this in turn must make it apparent that the lag in the Vance program is sufficiently serious to warrant consideration at the highest level of the Government. The problem to be investigated is very simple. It is this:

1. The Government itself has declared that a strong machine-tool industry is essential to national defense. It has defined a strong industry as one producing from $800 million to $1.1 billion of tools per year. It proposed a Government stimulation program of from $500 million to $800 million a year.

2. So far only $100 million has been appropriated and none of it spent. Only a small segment of the industry will benefit from the $100 million if and when spent. New machine-tool orders received during 1954 amounted to only $560 million. This level of production is well below the levels contemplated by the Vance plan as necessary to maintain the industry in a healthy state.

3. If the original program was right, what is necessary to get it carried out? If a new program is needed, what is it?

III. THE SALE AND LEASE OF GOVERNMENT-OWNED MACHINE TOOLS

In a very real sense, the Government is in the machine-tool business. It owns about 400,000 machines, valued conservatively at $2 billion, and its is continually under pressure to sell or lease these machines to private contractors. It will be apparent that sales and leases of Government machines have a profound effect on the machine-tool market, and hence upon the strength or weakness of the machine-tool industry.

The sale of surplus machine tools

At the end of World War II, the Government sold roughly 235,000 machine tools at a fraction of their value as war surplus. The consequence was a machine-tool depression and an industry very seriously weakened. Plainly, this disastrous disposal program must not be repeated. The national security requires an orderly disposal program in which the effect on the commercial market is considered along with other factors in the sale of Government-owned machines.

The Defense Department and other interested agencies are now administering such a program.[22] Under it, an interservice group under the administration of the Navy inspects all machines thought to be surplus. In the larger cases, teams of Government-industry experts go over the machines on site to determine whether they should be retained in a Government reserve. Once a machine is

---

[21] This thought was very well expressed by Mr. Vance at a Government industry conference on January 27, 1955, at which he is reported to have said:

"As destructive capabilities increase * * *, the importance of ready striking power is emphasized, with a corresponding deemphasis on the importance of latent productive capacity."

[22] Minutes of Industry Conference with the Business and Defense Services Administration, Jan. 27, 1955, p. 8.

declared surplus, an attempt is made to sell it under circumstances designed to yield a fair commercial price. Under no circumstances are modern machines sold at fractions of their actual value as was the case at the end of World War II.

The need here is not for change but to continue the present program and expand it as the Government inventory ceases to meet changing needs. This could be made more certain and simple if present practices were confirmed by directives issuing from the highest level of the Government.

The lease of Government-owned machines

The machine-tool market can be saturated by the lease of Government-owned machines as easily as by their sale. One is as important as the other as a matter of the national security.

1. *Leases for defense purposes.*—Unlike sales of surplus, there seems to be no uniform program for the lease of machine tools for defense purposes. Contracting officers determine on a case-by-case basis what machines, if any, should be furnished defense contractors, and on what basis.

As might be expected, the lack of a uniform policy with regard to leases has led to inequities and discrimination between individual contractors. It has also led to leases at rates far lower than commercial rentals without any corresponding benefit to the Government. Moreover, the practice of leasing machines on a "price adjustment basis" instead of for fixed rentals has proved particularly unfortunate. According to this practice, a contracting officer obtains some reduction in the purchase price of the end product in return for the use of Government machines in making it. But it is always difficult or impossible to arrive at a fair figure for such an adjustment, and contracting officers often have no way of determining the value of the Government machines that will be used.[23] The calculation of the adjustment is particularly difficult when more than one contract or more than one procurement agency is involved. In literally hundreds of cases, contractors have leased machines for a fraction of the commercial rate and so have achieved a very substantial advantage over companies which purchased their own equipment.

Again, where rentals are on a fixed monthly or annual basis instead of on a price adjustment basis, many companies have been able to obtain rates substantially less than any available commercially. Until recently, for example, the most usual rental for Government-owned machine tools was 1 percent per month as compared with 2 percent to 3 percent under most commercial leasing plans. Under a new Defense Department Instruction[24] rentals may be increased to 2 percent per month under certain circumstances, and there are other signs of growing awareness of the nature and extent of the leasing problem. But still the rentals of Government-owned machine tools are much too low, and governed by no uniform policy.

The Joint Committee on Defense Production in its Fourth Annual Report (p. 25) points out the evil and the remedy:

"It is the feeling of your committee, however, that the present method of including Government furnished tools as a part of the procurement contract leads to inequities, which frequently tends to favor one contractor at the expense of another. The committee further feels it essential to our free enterprise way of life that Government-owned equipment be made available to all contractors, both large and small, on the same competitive basis. To achieve this objective it is urged that standard leasing rates and procedures be established and applied uniformly by all responsible agencies on any machine tools supplied in performance of a defense or defense-supporting contract."

2. *Leases for commercial purposes.*—Present governmental policy on the lease of Government-owned machine tools for commercial purposes is contained in DMO VII–4, a directive issued October 9, 1953, by the Office of Defense Mobilization. In its Fourth Annual Report, the Joint Committee on Defense Production made the following comment on this directive:

"The fact is, however, ODM's Order DMO VII–4 does not set forth a clear-cut policy with respect to the extent Government-owned tools should remain on lease when a procurement contract is terminated. Your committee urged interested agencies to face up to this problem a year ago and establish a realistic approach. Because of the difference in opinions among officials in GSA, Commerce, and the armed services, this question still remains unsettled. Several proposals have been made but no clear-cut decision has been reached.

---

[23] Fourth Annual Report, Joint Committee on Defense Production, 84th Con., 1st sess., p. 25.

[24] DOI 4215.2 dated Jan. 14, 1955.

"Meanwhile certain contractors have indicated a willingness to properly maintain the equipment in their plants in return for its limited use on a specific basis. To date only a few requests have been received from the services requesting nondefense lease agreements for selected plants in order to keep the tools intact and properly maintained. So far there have been 11 special requests all of which originated from the services except 2 from GSA, and ODM has approved 9 as meeting the criteria standard and the remaining 2 are still under consideration."

The Joint Committee's comment is well founded, and its importance should not be underestimated simply because there have thus far been only a few applications for commercial leases. As defense production programs gradually end, the pressure to lease Government machines for commercial purposes will become more and more intense, particualrly when the machines are already installed and operating in a plant which itself can be converted for commercial purposes. In fact, the leasing of modern machines purchased during the Korean emergency may very well pose a much more serious problem than their outright sale.

Recommendation

A Presidential Commission or Committee capable of resolving interdepartmental differences should formulate a uniform governmental policy on the lease of Government-owned machine tools along the lines recommended by the Joint Committee on Defense Production. While other problems connected with the management of the Government inventory appear to be less serious, it is believed that such a Commission or Committee should also review the surplus sales program and all other problems related to the inventory.

IV. EXPORTS, IMPORTS, AND FOREIGN COMPETITION

It is plain beyond a doubt that the United States cannot rely on foreign sources for machine tools and machine tool capacity any more than it can rely on foreign countries for aircraft and tanks and guns. It follows that machine tool imports should be held to a minimum. Meanwhile, however, a substantial export market for machine tools would mean larger United States capacity for use in time of emergency, and since United States machines are more durable, more powerful, and more accurate than most foreign machines, exports tend to strengthen the defense production capabilities of any Western Allies. The problem is therefore to maintain the industry's traditional export market while at the same time restricting the importation of foreign machines to a minimum.

It will at once be apparent that there is an inherent inconsistency between restrictions on machine tool imports and free machine tool exports. The machine-tool industry recognizes this inconsistency and understands that compromises must be made. As matters now stand, however, the balance between foreign and domestic restrictions on machine tool trade favors the industry's foreign competitors. The industry seeks primarily to obtain a proper balance.

In approaching the problem of the proper balance it is very important to understand that the industry's problems arise solely out of economic conditions and governmental action beyond the industry's control. United States machine tools are much better than foreign machines. This is not a case of an industry seeking tariff or other protection because it is inferior in technology to its foreign competitors.

United States machines are better than foreign machines because they are more powerful, more durable, and much more accurate than most foreign ma-

chines. Moreover, most United States machine tool builders offer a far wider selection of types and sizes than their foreign competitors. United States machines afford the lowest production cost per man-hour, finer finishes, closer tolerances, less waste from scrap, interchangeable repair parts, a wider selection of attachments, and many other advantages. Foreign machines can compete with United States machines at home and abroad only because low foreign wage scales, and trade barriers permit prices as little as 36 percent of the price of a similar United States machine.

A. The Export Market

1. *History and statistics.*—As has already been mentioned, the export of United States machine tools is important to the national security both because the greater use of United States machines would increase the capabilities of our Western Allies and because a substantial export market means larger domestic machine tool capactiy in the United States. During the period of the great depression, and also the postwar machine tool depression, the export market meant the difference between bankruptcy and survival to many companies, and at the beginning of the Korean emergency the industry would have been even weaker without the exports of 1946–49.

Over the years, Canada, the United Kingdom, and Western Europe have accounted for between 80 percent and 90 percent of machine-tool export sales. Australia also has represented an important market, and since 1952, Japan has made some substantial purchases. The South American market is regarded as having a very large potential, but dollar shortages and generally unstable economic conditions have thus far held exports to Latin American countries to a comparatively low level.

The principal competition for foreign markets comes from England, Western Germany, and Switzerland. During the last 4 years, the growth of the German industry has been particularly large, and at the present time, it is offering the most serious competition.

The present strength of the German competition is attributable in very large degree to Marshall plan assistance and also to the business transferred to it from Untied States companies by various NATO and United States Government agencies during the Korean emergency. Before Korea, German machine-tool companies benefited along with other German industries from ECA funds, and during the emergency, a concerted drive was begun to build up German and other Euroepan production. This drive was one of the subjects investigated by the Joint Committee on Defense Production, and the Committee found as a fact that the drive was highly successful. It reported that: [35]

"* * * your committee is satisfied that the ECA missions, the Office of Special Representative, and the Defense Production Board are all bending their efforts toward increased machine-tool production in Europe. That these efforts *are bearing fruit* is indicated *by numerous cancellations of United States orders* for which substitute sources have been uncovered through increased production in Western Europe." [Emphasis added.]

---

[35] P. 20, Progress Report No. 13, Joint Committee on Defense Production, 82d Cong., 2d sess.

Machine tool shipments

Year	Total industry shipments (1)	Domestic	Foreign (2)	Percent foreign
1916	$141,400,000	(1)	(1)	(1)
1917	168,500,000	(1)	(1)	(1)
1918	220,600,000	$192,958,000	$27,642,000	12.5
1919	161,000,000	132,878,000	28,122,000	17.5
1920	151,500,000	126,018,000	25,482,000	16.8
1921	36,000,000	27,033,000	8,967,000	24.9
1922	43,300,000	39,863,000	3,437,000	7.9
1923	79,300,000	74,717,000	4,583,000	5.8
1924	69,600,000	63,705,000	5,895,000	8.5
1925	86,700,000	75,875,000	10,825,000	12.5
1926	105,000,000	97,800,000	7,200,000	6.9
1927	87,000,000	74,400,000	12,600,000	14.5
1928	128,000,000	112,000,000	16,000,000	12.5
1929	185,000,000	166,100,000	18,900,000	10.2
1930	96,000,000	78,000,000	18,000,000	18.8
1931	51,000,000	33,400,000	17,600,000	34.5
1932	22,000,000	15,800,000	6,200,000	28.2
1933	25,000,000	20,600,000	4,400,000	17.6
1934	50,000,000	37,900,000	12,100,000	24.2
1935	85,000,000	67,600,000	17,400,000	20.5
1936	133,000,000	108,100,000	24,900,000	18.7
1937	195,000,000	156,600,000	38,400,000	19.7
1938	145,000,000	80,500,000	64,500,000	44.6
1939	200,000,000	120,200,000	79,800,000	39.9
1940	440,000,000	254,500,000	185,500,000	42.2
1941	775,000,000	608,500,000	166,500,000	21.5
1942	1,320,000,000	1,162,500,000	157,500,000	11.9
1943	1,180,000,000	942,900,000	237,100,000	20.1
1944	497,000,000	333,400,000	163,600,000	32.9
1945	423,700,000	345,200,000	78,500,000	18.5
1946	334,800,000	224,800,000	110,000,000	32.9
1947	306,000,000	200,700,000	105,300,000	34.4
1948	288,450,000	225,650,000	62,800,000	21.8
1949	249,150,000	176,550,000	72,600,000	29.1
1950	305,550,000	239,050,000	66,500,000	21.8
1951	632,250,000	564,950,000	67,300,000	10.6
1952	1,125,900,000	1,003,900,000	122,000,000	10.9
1953	1,191,200,000	1,073,500,000	117,700,000	9.9
1954	891,750,000	814,450,000	77,300,000	8.7

[1] Not available.

Source: (1) Estimated from reports to N. M. T. B. A.
(2) U. S. Department of Commerce, Foreign Trade Report 410.

NOTE.—Foreign shipments data not available prior to 1918.

The machine tool industry is mindful of the political and economic reasons for canceling orders with United States companies during this partcular period. It also recognizes the wisdom of building up West German productive capacity. But the fact remains that United States funds have been expended to provide the United States machine tool industry with a very formidable competitor.

The present strength of the industry's foreign competition can be seen from the drop in export shipments to $77 million in 1954 as compared with $118 million in the previous year. Moreover, new export orders received during 1954 fell to about $59 million. This drop may very well mean that 1955 export shipments will fall to their lowest dollar level since 1938.

The basic statistics relating to the export of machine tools appear on the chart above, but it must be emphasized that the export situation for various individual companies is much more serious than these figures suggest. This is because orders are now being received almost exclusively for special machines of a type or size not available abroad. Manufacturers of standard or general purpose machines report almost no export orders. For example, domestic manufacturers of turret lathes report export orders amounting to only a small fraction of total orders. In past years, this segment of the industry has shipped a substantial part of its production in the export trade. As has previously been pointed out, turret lathes are very important in times of emergency, and any circumstances which tend to decrease turret lathe capacity are therefore significant in the national security.

2. *Trade barriers.*—Foreign restrictions on machine-tool trade make the outlook for machine-tool exports much less favorable than the historical record suggests.

During the postwar period 1946–49, the German industry had not been rebuilt, and there was a seller's market for machine tools throughout much of Europe. In addition, the iron curtain did not fall until the middle of this period, and the statistics therefore reflect a substantial volume of sales both to Russia and the satellite countries. Moreover, the statistics for 1951–53 reflect more than $200 million of orders for NATO rearmament.[26]

Because of these circumstances, foreign trade barriers had to be and were surmounted during 1946–53, and the statistics for this period accordingly tend to overstate the industry's present prospects. Today, the German machine-tool industry has been rebuilt; there can be no shipments behind the iron curtain; NATO is rearmed; and there is now a buyer's market in Europe. In such a market, exchange control, tariffs and other trade barriers have suddenly become much more important than ever before.

As a practical matter, exchange control is usually the most important barrier to the export of United States machines. In most countries having a dollar shortage it means that machines cannot be imported from the United States if a comparable machine is manufactured in the importing country or can be obtained from some other country without the expenditure of dollars. This is one of the main reasons why the export market for general purpose as distinct from special machines has virtually dried up.

In many cases, the exchange control problem is made much more difficult by the refusal of foreign officials to recognize the greater power and accuracies of United States machines. To many of them, all lathes are "comparable" regardless of power and the other factors which distinguish United States machines. This often makes it difficult or impossible for a foreign industrialist to buy a United States machine even though he recognizes its superior qualities and is ready to pay the higher price.

The importance of the dollar shortage and exchange control regulations as restrictions on United States exports has been magnified by the operation of the various foreign aid programs. In the postwar period, Marshall plan funds were deliberately expended to rebuild the German machine-tool industry, and during the period of NATO rearmament, there was a positive plan "that urgent NATO orders be diverted to European manufacturers with open capacity and canceled on United States firms."[27] Now, however, there is certainly no justification for "diverting" orders to European manufacturers, and it seems to the industries that the agencies charged with the administration of the various foreign aid programs should insist upon the procurement of United States machine tools except in extraordinary cases.

Unfortunately, ECA, MSA, and FOA officials have not been following this policy. According to our information, they have sometimes gone so far as to advocate the purchase of foreign machines, usually for exchange control or other monetary reasons.

This has occurred even in cases in which the foreign government or the foreign customer desired United States machines.

It appears to the machine-tool industry that in situations where United States machines are readily available and especially when the foreign producer or his government desires United States machines, the United States officials concerned should do everything in their power to facilitate the purchase of United States machines. When a foreign manufacturer is willing to pay, even in his currency, the substantially higher price of a United States machine, he does so only because he is convinced that his operation requires the greater accuracy and productivity of the United States machine. In this situation, the purchase of the cheap foreign machine is contrary to the United States interest in bringing the productive facilities of our Western Allies to the highest possible pitch, as well as to the United States interest in maintaining United States machine-tool production at a maximum level.

3. *Recommendations regarding exchange control.*—In the industry view, consideration should be given to a program under which the United States Government would advance dollars and take their equivalent in foreign currencies in cases where a foreign customer is willing to pay the extra price of a United States machine but cannot obtain the necessary dollars from his own government. This is precisely what the United States Government can now do to facilitate the export of agricultural surpluses under the Agricultural Trade Development

---

[26] See Progress Rept. No. 13, Joint Committee on Defense Production, p. 18.
[27] Progress Report No. 13, Joint Committee on Defense Production, 82d Cong., 2d sess., p. 20.

and Assistance Act of 1954.[28] Under this act the foreign purchaser can buy United States surplus agricultural commodities through ordinary trade channels with his foreign currency, the United States Government taking over the foreign currency for dollars. The case for governmental purchases of foreign exchange to facilitate machine-tool exports would appear just as compelling. American machine tools are sufficiently superior to foreign machines to lead to a substantial export market regardless of price if only exchange control difficulties could be surmounted.

In addition to a program in aid of machine-tool exports similar to that provided by the Agricultural Trade Development and Assistance Act of 1954, consideration might be given to programs similar to that recently inaugurated by the Foreign Operations Administration to facilitate the export of coal. Under this program, the United States Government purchases coal in this country, utilizing United States currency appropriated for aid to countries in the Middle and Far East. The coal is then delivered to European countries, such as Great Britain, Denmark, Italy, and France, in exchange for the currencies of these countries, and such currencies are used to purchase various products needed by middle and far eastern countries. In this way, United States currency is made available to countries which desire United States coal, and the needs of the middle and far eastern countries in turn are adequately met through the use of the local currencies obtained for the coal. In like fashion, funds for Asiatic and other recovery programs could be utilized to purchase machine tools for European and other countries not receiving dollar aid from this country, and the local currency secured in exchange for the machine tools used for the aid to the less developed areas. It is believed that the machine-tool exports that would be facilitated by the employment of such a program would be just as important as coal exports to the national security and economy.

Finally, it should be made plain to all the United States agencies concerned that United States funds should not be expended in foreign aid programs for foreign machine tools unless there is no United States machine available. As has been pointed out, United States officials in the past have often recommended the purchase of foreign machine tools for reasons having to do solely with exchange control and dollar shortages, but it is believed that we have now reached a point where the national interest in maintaining the machine tool market transcends any considerations of this character.

B. Imports

1. *History and statistics.*—Before Korea, very few foreign machine tools were imported into this country. The principal imports consisted of cheap, general purpose machines which could be used in operations not requiring a high degree of accuracy. In addition, there are a few foreign machines of excellent quality which can compete successfully in the American market. For example, there is a jig boring machine manufactured in Switzerland that has always sold well in this country.

The situation with regard to imports changed markedly with the Korean emergency. When the machine-tool bottleneck developed in the middle of 1951, many companies bought German and other foreign machines because they could be obtained without priority ratings. The consequence was a surge of machine-tool imports which reached a high in 1952. The following are the postwar totals:

Machine-tool imports[1]

	Imports		*Imports*
1946	$1,078,798	1951	13,703,655
1947	1,011,602	1952	49,868,065
1948	1,825,984	1953	37,363,561
1949	1,597,104	1954 (estimated)	22,000,000
1950	2,291,042		

[1] Source: U. S. Department of Commerce, Foreign Trade Rept. 110.

Since its resurgence, the German machine tool industry has shipped more machine tools into the United States than any other country. The Swiss are second, principally because of the jig borer previously described. The British are third, and the imports from other countries are relatively unimportant.

[28] Public Law 480, 83d Cong., 2d sess., 68 Stat. 454.

The statistics do not reveal the fact that most of the foreign competition comes, as in the case of the export market, from manufacturers of standard, general purpose machines.[29] As previously noted, turret lathes and other general purpose machines are likely to be the most critical in any emergency, particularly at the beginning of production before the designs of military end items have become frozen.

2. *Tariffs.*—The present United States tariff on machine tools affords very little protection against foreign competition.

Under the Hawley-Smoot Tariff Act (Tariff Act of 1930),[30] the United States tariff on most machine tools was 30 percent ad valorem. An exception was made in the case of certain kinds of gear-making machines on which the tariff was 40 percent. In 1936, the tariff on jig borers was reduced to 15 percent pursuant to an agreement with Switzerland[31] negotiated under the Reciprocal Tariff Act of 1934.[32] In 1948, pursuant to the multilateral General Agreement on Tariffs and Trade (GATT), tariffs on most other machine tools were cut in half. At present, therefore, the United States tariff on most machine tools is 15 percent, and on certain gear making machines, it is 20 percent.

It is difficult to compare the United States tariff rates with those of other countries because in many countries the rates are calculated according to the weight of the machine and other factors which will vary with each shipment. Comparisons nevertheless can be made in typical cases, and the following table shows the customs duties, import taxes and similar charges which would be imposed upon the shipment of a standard engine lathe[33] priced at $9,280 f. o. b. a plant in the United States:

Australia	[1] $6,427	Switzerland	$1,471
France	3,927	Japan	1,467
Italy	3,716	Indonesia	1,467
Canada	2,146	Netherlands	1,173
United Kingdom	1,907	Belgium	1,072
Spain	1,547	Germany	883
Sweden	1,487		

[1] Assumes that no comparable machine is manufactured in Australia. If there is, the duty is over three times as high, and the price is correspondingly increased.

An importer of this typical engine lathe into the United States would have to pay a United States tariff of $1,392, and it will thus be observed that United States tariffs are relatively low.

It will also be apparent from a consideration of comparative foreign and United States wage scales that the United States tariffs afford almost no protection to the United States machine-tool industry. For example, the United States industry pays an average of about $2.20 an hour to its labor force, while the average rates paid by the industry's major competitors in Germany and England are only 70 and 90 cents, respectively. In most other European countries, the wage scales are as low or lower, and according to the industry's best information, the wage rate in Holland is only 40 cents an hour.

It is of course apparent that other American industries face comparable differences in wage scales whenever they enter foreign markets. But wage scales are much more important in the machine-tool industry than in industries manufacturing mass-produced consumer goods. This is indeed ironic. The potential market for any single model of machine tool is so limited, and the machine itself is so precise, that the mass production techniques made possible by machine tools cannot be employed in machine-tool manufacture. As a result many machines are virtually hand built, and in all countries labor costs will account for as much as 50 percent of the cost of a machine tool. In the mass production industries, labor is a far less important factor and sometimes falls as low as 10 percent of the cost of manufacturing.

---

[29] The overall figures are based on tariff classifications which do not distinguish between special and general purpose machines. The statement that general purpose machines make up the bulk of the imports is based upon the answers to questionnaires sent to the members of the National Machine Tool Builders' Association and the advertising and catalogs of foreign builders.

[30] 46 Stat. 590.

[31] TD 48093, February 15, 1936.

[32] 48 Stat. 943.

[33] The lathe in question is a 16-inch swing by 54-inch center engine lathe weighing 7,125 pounds boxed for export, equipped with a motor and starter selling for $258 and weighing 300 pounds boxed. The motor is rated at 7½ horsepower at 1,800 revolutions per minute.

In consequence both of the lack of balance between United States and foreign tariffs and wage differentials, foreign machines enjoy a very substantial price advantage over United States machines in all the markets of the world. For example, a British turret lathe has been quoted at $3,674 f. o. b. a British plant as compared with $8,740 for a United States turret lathe of the same size free on board plant, and the discrepancy between the price of other United States and foreign machines appears to be on the same order of magnitude.[34] But perhaps the most significant price comparison is that between a United States machine now being manufactured in the Netherlands and an identical machine built in this country. The prices of this machine are as follows:

	Dutch manufacture	United States manufacture	Percentage
Free on board plant	$5,000	$11,477	43
Cost, insurance, and freight, Netherlands	5,000	13,762	36
Cost, insurance, and freight, United States	6,150	11,477	54

The above table shows very plainly why many United States machine-tool companies are considering arrangements for the manufacture of their machines abroad, with consequent loss of United States capacity. And it also shows that a 15 percent United States tariff on machine tools affords little protection.

Now that the Trade Agreements Extension Act of 1955 has become law, the industry believes that a major effort should be made in the negotiation of future reciprocal trade agreements to obtain concessions regarding machine-tool tariffs and other trade barriers from the principal customer countries. In view of the present balance in favor of the industry's foreign competitors, such concessions ought to be relatively easy to obtain, and the corresponding concessions from this country need not take the form of a reduction in United States machine-tool tariffs, at least in the first instance.

Meanwhile and in the event that imports of foreign machine tools increase above their 1954 level, it may be necessary or advisable for the President to raise tariffs or impose import quotas pursuant to the authority contained in section 7 of the act. In this way and if the recommendations previously made in the section on exports are also adopted, it may ultimately be possible to produce a proper balance between foreign and domestic tariffs and other restrictions on international machine-tool trade.

C. Financing machine-tool exports

After quality and price comes credit as a consideration in machine-tool purchases, but until recently, the machine-tool industry has been unable to obtain the financial backing required to permit it to offer favorable credit terms to foreign customers. As a result of a policy announced last November, however, machine tool builders can now obtain "exporter lines of credit" from the Export-Import Bank, and if the bank continues its present liberal and understanding approach to the industry's export problems, these lines of credit will provide a useful tool with which to meet foreign competition for the export market.

Under an exporter line of credit, the Export-Import Bank agrees to guarantee or otherwise assume a part of the credit risk on individual export transactions provided the exporter obtains a substantial downpayment and accepts the remainder of the risk. Terms with regard to rates of interest and maturities are negotiated on a case-by-case basis, but the bank has indicated that in most cases it will insist upon a minimum interest rate of 5 percent and a

[34] The following table shows some recent prices f. o. b. plant of comparable United States and foreign machines:

Type	United States price free on board plant	Foreign price free on board plant	Percentage
Turret lathe	$8,740	$3,674	42
Engine lathe	8,975	4,496	50
Thread grinder	14,000	9,300	66
Automatic boring machine	18,625	9,630	52

maximum maturity of 5 years. Ordinarily, the interests of the bank and the exporter in obtaining a substantial downpayment and satisfactory interest and maturities will be identical, and it is only when the exporter encounters direct foreign competition that a problem may arise.

The problem we have in mind arises out of the fact that the industry's principal competitors in Germany and the United Kingdom are operating under governmental credit assistance plans similar to the Export-Import Bank's present plan. The question is whether, under the bank's plan, a United States machine-tool company will be able to meet its German and British competitors with regard to terms of credit. The machine-tool industry feels very strongly that its Government should provide it with just as much or more credit assistance than that provided its foreign competitors by their governments.

Discussions with Export-Import Bank officials indicate an awareness of the industry's problems and a desire to tailor exporter lines of credit to meet its peculiar needs. But the bank is not presently operating under a policy which contemplates the affirmative promotion of any particular kind of export sales, and it has said on numerous occasions that it will avoid international credit races.[35] Under these circumstances, a declaration of national policy from the highest level is needed. The bank should be informed through appropriate channels of the national interest in machine-tool exports, and it should be authorized to finance machine-tool exports on as favorable terms as those available to foreign machine tool companies from their governments.

D. Buy American Act

Finally, we mention the problems presented by the President's recent Executive order [36] under the Buy American Act.

The Buy American Act provides generally that the Government shall purchase articles of United States manufacture unless the public interest is to the contrary. Before the new Executive order, the various executive departments had considerable latitude in determining whether the public interest required the purchase of a United States or a foreign machine. In the Defense Department, as an example, a United States machine tool would ordinarily be purchased unless: (1) the price differential amounted to more than 25 percent in favor of the foreign machine; and (2) there were no other considerations such as the desirability of maintaining a United States source for a critical machine which required the purchase of the United States machine.

Under the new Executive order, the Defense Department will now employ a 6-percent price differential instead of the previous 25 percent, in deciding whether to purchase foreign machines, but it still has some latitude to determine that other considerations require the purchase of United States machines as a matter of national interest. In its directive implementing the Executive order, the Department has said, as an example, that foreign bids may be rejected if "such rejection is necessary to protect essential national security interests, such as maintenance of a mobilization base." Moreover, the Assistant Secretary of Defense for Supply and Logistics has announced that United States machines will be purchased under appropriations for increased defense production capacity.[37] In procurements under other programs, however, it will apparently be necessary for United States builders to establish the existence of a national interest on a case-by-case basis, and this may be very difficult in view of the provisions of both the Executive order and the implementing Defense Department directive relating to the levels at which exceptions to the Executive order must be reviewed. Thus, the Executive order provides for reports to the President through the Bureau of the Budget in cases in which it has been de-

---

[35] Thus in the initial announcement of exporter lines of credit in the Foreign Commerce Weekly for November 22, 1954, it was said (p. 14):

"Exporter credit lines are intended to help United States exporters of productive capital equipment retain their traditional foreign markets. Such a line of credit *would not provide terms in all respects equal to or easier than those offered by foreign suppliers*, and these lines would not be expected to finance more than a portion of the business of a particular exporter of capital equipment. Otherwise, there would be grave danger of precipitating an *international credit race, or of overselling abroad* to the point where United States trade would be curtailed because of the inability of other countries to find the dollars to pay for their imports from the United States." [Emphasis added.]

[36] The Executive order provides an alternative price differential calculated on the basis of 10 percent of the purchase price exclusive of duty and certain other charges, but under Defense Department Directive 4105.25, implementing the Executive order, the Defense Department will use only the 6 percent overall price differential.

[37] Statement of Hon. T. P. Pike, Assistant Secretary of Defense for Supply and Logistics, before a House Subcommittee on Appropriations, Feb. 24, 1955.

termined that the public interest requires the purchase of an American machine despite the price differential, and under the Defense Department directive, it will in any event be necessary to take such cases to the Assistant Secretary for Supply and Logistics. In many cases, however, the time and trouble involved in taking a Buy American case through the Pentagon would be more costly than the procurement could possibly be worth.

From what has already been said, it will be apparent that United States machine tool prices will almost always be more than 6 percent higher than foreign prices. This means under Executive Order 10582 that foreign machines must be purchased for defense applications unless a contrary decision based on the national interest is made at a very high level of the Government. But the purchase of foreign machines for defense means that to the extent of such purchases, our defense plants will be operating without the efficiencies, accuracies and speeds which might be obtained with United States machines. Moreover, in time of war, replacement parts or attachments would have to be brought 5,000 miles, if they were available at all, and under wartime conditions this could lead to very serious delay.

It follows in the industry view that Executive Order 10582 (relating to the Buy American Act) should be amended so as to provide for the purchase of United States machines for all defense applications except when no United States machine is available.

V. THE IMPORTANT BEARING OF TAX POLICY ON DEFENSE

Justice Holmes observed that legal progress is largely secreted in the interstices of legal procedure. We may add that the modernization of industrial equipment is largely secreted in the interstices of income tax rules. The policy followed in deductions from gross income on account of depreciation and obsolescence will be determinative in this field. Here the administration has already initiated helpful action which has been and in all probability will continue to be under attack in Congress. Since the whole matter is in issue, a reaffirmation of sound policy is both necessary and desirable.

We stress, first, the extent to which machine tool obsolescence is a factor in our national security. More than half the machine tools in service are over 10 years old and 20 percent are more than 20 years old. Since these machines were made, there have been countless developments and improvements even in relatively simple general purpose machines. By conservative estimate it costs the Nation at least a billion dollars a year to retain obsolescent machines in its metalworking industries.

Before Korea, only about 43 percent of all machines were 10 years old or older. Today, the figure is around 55 percent. This reveals an unfortunate trend.

Much of the present obsolescence of United States industrial equipment is attributable to the rigid depreciation policies of the previous administrations. These policies were inaugurated in 1934, largely as revenue raising measures. They called for the depreciation of machine tools over long periods—sometimes as much as 30 years. They were completely at odds with the rate of modernization actually prevalent in the metalworking industries, and they afforded prospective purchasers no real opportunity to recover the cost of an old machine before a new one was needed. The consequent brake on machine tool replacement was substantial. Before World War II, it was estimated that as many as 73 percent of machine tools in service were over 10 years old.

The enactment of tax amortization legislation during both World War II and the Korean emergency was a recognition of the inadequacy of existing depreciation and obsolescence allowances.

Almost as soon as it took office, the present administration took steps toward a new depreciation policy, resulting in two significant accomplishments. First, the Treasury Department has liberalized the regulations and the practice relating to obsolescence, thereby making more realistic depreciation allowances possible. Second, provision is made in the Internal Revenue Code of 1954 for depreciation according to the sum-of-the-years digits and the double-declining-balance methods, both of which permit more rapid initial writeoffs than the conventional straight line method. In consequence, depreciation policy is no longer a positive impediment to machine tool replacement.

Representatives of the machine tool industry are urging upon the Treasury Department that allowable rates of depreciation should be increased to the point where a prospective purchaser will have even more assurance of charging the

cost of a machine over its expected profitable life. Thus far, the Treasury has answered such suggestions by pointing to the immediate revenue loss. It recognizes that this revenue loss will be made up in future years after there has been full depreciation or a sale of the tools.

We urgently submit that in the interests of reversing the trend toward obsolescence, the national security requires increases in depreciation allowances for tax purposes. Certainly, there can be no turning back from the legislative and administrative advancements of 1953 and 1954. The contrary position taken by some of the Democratic majority in Congress constitutes a threat to the national security. The administration should make this plain in appropriate communications to the Congress.

VI. RENEGOTIATION

As in the case of its policy on depreciation for income tax purposes, the administration has brought considerable understanding to bear upon the machine tool industry's problems under the Renegotiation Act of 1951, and the need is for a continuing reaffirmation of policy in the event of possible attacks in the Congress.

The Renegotiation Act of 1951, like its predecessors, was designed to eliminate excessive war profits. But because of the characteristics of their products, machine tool companies inevitably lose much more than they gain by producing large numbers of machines during war or other periods of national emergency. This is because the machines produced in an emergency inevitably saturate the post-emergency market. When a machine tool company quadruples its production in wartime, it manufactures the machines it would otherwise manufacture in future years; it compresses the profits it would normally earn over, say, a 10-year period into a period of high income and excess profits taxes. Far from deriving excessive war profits from war or defense production, machine tool companies make much less retainable profit during a combined emergency and postemergency depression period than in a normal period of comparable duration.

In World War II the character of a machine tool company's sales and profits was not generally appreciated, and as a result many severe renegotiation refunds were imposed. These refunds contributed significantly to the weakness of the industry during the postwar period, and during the Korean emergency the industry made every effort to persuade the Congress and the Renegotiation Board that the World War II experience must not be repeated. In this area the present administration has seen the problem, and in the 1954 amendments to the Renegotiation Act and also in the renegotiation regulations, there are specific provisions which deal with it. It is unfortunate in terms of the continuing strength of the industry for defense that the amendments did not apply to the years 1951 and 1952, which were two of the peak years of machine tool shipments.

The President has now recommended an extension of the Renegotiation Act of 1951 through 1956 without change in the existing exemptions, and the House has recently passed a bill providing for such an extension. If this bill (H. R. 4904) is enacted, it will permit the renegotiation of machine-tool companies on an equitable basis in comparison with other defense industries. But any contraction of the existing provisions relating to durable productive equipment would mean inequitable renegotiation and a return toward World War II in which machine-tool companies were seriously weakened in renegotiation.

VII. MOBILIZATION PLANNING

During the Korean emergency, the lack of mobilization planning in some areas and the failure to use available plans in other areas were major factors in the machine-tool shortages. Today, there are those in Government and in industry who know the mistakes which were made and can lay plans for future mobilization. While the experience of Korea is still fresh in mind and these men remain available, mobilization plans and programs should be drawn up which would permit and require the machine-tool industry to build up to peak production with a minimum of delay.

Pool orders

During World War II, production of machine tools was successfully built up by the device of "pool orders" issued by the Defense Plants Corporation. A pool order is basically a firm Government contract for the purchase of machine tools with a proviso directing the diversion of the machines covered by the order to defense contractors if rated orders are received from such contractors before completion. It is the hope and expectation upon the issuance of a pool

order that the machines in question will be diverted to defense contractors and that the Government will never be called upon to take delivery. During World War II, this expectation proved to be the fact in all but a small percentage of the cases.

At the beginning of the Korean emergency, the National Security Resources Board had a plan for the issuance of "phantom orders" which amounted to "automatic" pool orders which could be "triggered" at a moment's notice at the beginning of any emergency. When, however, the direction of the defense production program was shifted from the Defense Department to the Office of Defense Mobilization, these plans were discarded, and it was not until February 28, 1951, 8 months after South Korea was invaded, that a pool order program was actually inaugurated.[38] Unfortunately, however, the terms of the proposed pool order contract were much more restrictive than those of World War II, and only 18 members of the industry could be persuaded to accept them. It was not until August 28, 1951, or 14 months after Korea, that a pool order program really began with a contract generally acceptable to Government and industry alike. At this point, however, it was much too late for the program to operate as a stimulant to production, and for most companies a pool order amounted mainly to an insurance policy against cancellations.

When the Korean pool order program had been completed, it had covered 94,225 machine tools costing more than $1.4 billion. If these orders had been placed in advance of the emergency and gone automatically into operation on July 1, 1950, the machine-tool shortages of 1951 and 1952 might have been alleviated or even averted.

Today, as a matter of the simplest and most obvious kind of mobilization planning, there is a need for a program of automatic pool orders which would go into effect upon a telephone call or a telegram or simply the declaration of a national emergency. Such a program is now under consideration in the Business and Defense Services Administration of the Department of Commerce and it is believed that with one exception it can be worked out by agreement between the industry and this agency. The exception relates to the funds for financing the pool orders.

During both World War II and Korea, the financial details behind the pool orders proved a major stumbling block because of the difficulty of providing in advance for the contingent liability of the Government on the pool orders. During World War II, this problem was solved by a somewhat informal agreement between the Defense Plants Corporation and Under Secretary of War Patterson that the War Department would ask the Congress for deficiency appropriations if such appropriations ever became necessary. During Korea, the problem was ultimately met by the use of the borrowing authority contained in section 304 (b) of the Defense Production Act, as amended on July 31, 1951. Some question has now been raised, however, about the availability of the borrowing authority for financing, in advance, the proposed program for "trigger pool orders," and it is therefore believed that there should be specific legislative authority to enter upon such automatic pool orders without preexisting appropriations. This legislation should contain a provision similar to section 304 (b) of the Defense Production Act authorizing the appropriate governmental agencies to borrow up to a designated sum from the Treasury to meet the Government's contingent liabilities under automatic pool orders and also to provide funds for the advance of working capital which are a necessary part of such orders.

Priorities

Another factor which contributed to the Korean bottlenecks was the failure to establish adequate priority systems until the shortages had actually developed.

As a result of the postwar machine-tool depression, most machine-tool builders found their inventories depleted, and they required priority assistance to obtain the requisite raw materials and basic components. But during the first 8 months of the emergency, no substantial assistance was available,[39] and the first step in the proper direction was not taken until February 28, 1951, when priorities were authorized for use in connection with the initial restricted pool order con-

[38] NPA Order M–40, Feb. 28, 1951.

[39] Under NPA Priority Regulation No. 2 of Oct. 2, 1950, a defense contractor could sometimes pass his priority down to a machine tool subcontractor, but in view of dollar limitations and other restrictions, priorities of this kind were rarely employed.

tracts discussed above.[40] These proved inadequate, and on May 14, 1951, a special priority was granted machine-tool builders with regard to the third quarter of 1951. This, too, proved inadequate, and it was not until December 11, 1951, almost a year and a half too late, that the industry was given a priority status equivalent to that enjoyed by the major end-item manufacturers.

Similarly, there was a lack, during the early days of Korea, of a priority system for scheduling machine-tool orders and making machine-tool shipments. During this period, the industry had some commercial backlog and it was receiving a substantial volume of commercial orders in anticipation of an eventual freeze. In the absence of some governmental authority it obviously could not give priority to defense contractors over this kind of business, yet it was not until February 28, 1951,[41] that restrictions were finally placed on commercial deliveries. As in the case of the pool order program and priorities for material purchases, this order required frequent revision, and it was not until February 1, 1952, that commercial deliveries were effectively frozen.

It would seem plain that if there had been some standby system of priorities on July 1, 1950, the machine-tool industry would have been able to build up its production at a much faster rate, with a consequent reduction in the magnitude of the machine-tool shortages. It follows that consideration should now be given by the appropriate agencies to the creation of a standby system.

Price control

The various price control regulations issued by the Office of Price Stabilization during 1951 contributed very substantially to the 1951 and 1952 machine-tool bottlenecks.

The basic difficulty arose on January 16, 1951, when ceilings were established on all commodities, including machine tools, at the highest price at which the particular commodity had been sold (i. e., delivered) in the period between December 19, 1950, and January 25, 1951. As regards machine tools, this order ignored the fact that a machine tool shipped in January of 1951 might very well have been ordered in January of 1950 on the basis of a 1949 price list which reflected depressed prices of the saturated postwar market. Moreover, labor and material costs were mounting very rapidly at the beginning of 1951, and since machine-tool builders were being required to do everything in their power to increase production, it was absolutely essential that they be permitted to protect themselves.

As a result of the inequity of the initial price regulations, the question of a proper price ceiling for machine tools had to be discussed throughout the Government during most of 1951. Finally and largely as a result of the good offices of the Defense Department and the Defense Production Administration, a fair solution was worked out on August 27, 1951 (13 months after the outbreak of war).[42] In the meantime, however, machine-tool production had been seriously delayed, and if a recurrence of this situation is to be avoided in a future emergency, consideration should now be given to the establishment of a system of standby controls. In this connection, a review should be made of the question whether any price controls should be imposed on capital-goods sales in time of emergency.[43]

Procurement forms and regulations

During the Korean emergency, the forms and regulations applicable to the purchase of tanks and battleships and aircraft were used without discrimination in the purchase of machine tools. This led to a great deal of confusion especially among the smaller members of the industry.

Most small machine-tool builders had done very little Government business during the depression period 1946–49, and they therefore had no opportunity to become familiar with the complications in Government procurement which grew up in that period. Then in 1950 and 1951, they were suddenly faced with the flood of Government orders previously described. These orders were often inches thick. Scarcely any of them were alike. Those that happened to be alike had to be read to determine that they were alike. They may have been appropriate

[40] NPA Order M–40, Feb. 28, 1951.
[41] NPA Order M–41, February 28, 1951.
[42] Revision No. 1 to Supplementary Regulation 2 to Ceiling Price Regulation 30 issued by the Office of Price Stabilization.
[43] See article by Mr. Frederick S. Blackall, Jr., a past president of the National Machine Tool Builders' Association, entitled "Price Control in the Machine Tool Industry," No. 447 in the series National Economic Problems, published by the American Enterprise Association.

for use in ordering large quantities of aircraft or tanks from large corporations having staffs of procurement experts, but for small machine-tool companies, they raised all sorts of questions which could not be answered by the company's regular selling organization. In consequence, the owners of many small companies found much of their time taken up with the fine print and uncertainties of defense orders. Some companies were discouraged by the bulk of paperwork from bidding on projects for which they were exceptionally well qualified, and as a result, the number of bidders on many important projects was greatly reduced.

The single most serious difficulty in this area arose out of the lack of an acceptable escalation clause. Most machine-tool companies felt that they could not take orders a year or more in advance without such a clause in a period when cost increases were inevitable.

Beginning in 1952, the machine-tool industry began discussions with the Defense Department looking toward a simplification of the regulations governing machine-tool procurement. But today, 4 years after the Korean shortages, there has been virtually no simplification of the regulations. Machine tools are still being bought as though they were tanks.

In view of the reduced volume of machine tool procurement, the complexities of the procurement regulations are presently being surmounted, but if there were to be a flood of orders comparable to those of 1951, the complexities would again contribute to a machine-tool shortage. The answer lies in the issuance, as a matter of mobilization planning, of simplified procurement regulations applicable to the purchase of machine tools.

Manpower

During both World War II and the Korean emergency, the machine-tool industry lost substantial numbers of skilled engineers and mechanics to selective service. Moreover, there was and still is an overall shortage of the kind of skilled mechanics that are needed for full-scale emergency machine-tool production, and in addition certain kinds of defense plants could pay more for skilled mechanics than machine-tool builders under wage stabilization and other regulations. The result was often the "pirating" of skilled mechanics from the machine-tool industry.

It is of course resognized that no industry is draft-proof, and as regards selective service, we are concerned only with the deferment of keymen particularly the indispensable nucleus of younger highly skilled machinists during critical periods of a machine-tool buildup. It is believed that during such periods, the draft of key engineers and mchanics in machine-tool plants should be deferred until such time as potential machine tool shortages have been averted.

Section 6 (h) of the Universal Military Training and Service Act [44] contains ample authority for deferments of the kind we envision, and it is believed that as a matter of mobilization planning steps should be taken to insure that a program for such deferments is in effect on M-day.

With regard to the shifting of skilled personnel between industries and also the broader problem of obtaining additional manpower for the machine-tool industry, we suggest continued peacetime emphasis upon the kind of program inaugurated in July of 1951 by the Bureau of Employment Security of the Department of Labor in cooperation with State employment agencies. This program involved continual requirements surveys and case-by-case efforts to assist individual companies in meeting specific manpower problems as they arose.

Recommendation

Although some of the problems of mobilization planning (notably the pool order program) are progressing rapidly under the auspices of existing governmental agencies, it would appear that the subject is important enough to be referred to a Presidential commission for top level supervision over all areas and all interested agencies.

VIII. CONCLUSION

The foregoing recommendations and suggestions may be summarized as follows:

1. The Vance plan should be reviewed to determine whether the original program was realistic and whether a new program or firm measures to carry out the old program are now required.

---

[44] 62 Stat. 611.

2. A Presidential commission or committee capable of resolving interdepartmental differences should formulate a uniform governmental policy on the sale and lease of Government-owned machine tools and the management of the Government inventory.

3. Immediate consideration should be given to a program to provide dollar exchange to facilitate machine-tool exports similar to the programs made possible by the Agricultural Trade Development and Assistance Act of 1954 [48] in the case of exports of surplus agricultural commodities. Meanwhile, United States agencies charged with the administration of foreign aid programs should be directed to refrain from advocating the purchase of foreign machine tools for exchange control or any other reason.

4. Agencies concerned with the negotiation of reciprocal trade agreements should be instructed that there can be no further reduction of present United States tariffs on machine tools. A determined effort should be made to obtain foreign concessions reducing foreign tariffs and customs duties on United States machines at least to the United States level.

5. The Export-Import Bank should be authorized to finance machine-tool exports on terms at least as favorable as those available to foreign machine tool companies from their governments.

6. Executive Order 10582 (relating to the Buy American Act) should be amended so as to provide for the purchase of United States machines for all defense production except when no United States machine is available.

7. All attempts to repeal the depreciation of provisions of the Internal Revenue Code of 1954 should be resisted, and as soon as budgetary conditions permit, those provisions should be liberalized.

8. There should be no change in the provisions of the Renegotiations Act of 1951, as amended, relating to "new durable productive equipment."

9. The Administration should support legislation providing authority to proceed with a program for automatic "triggered" pool orders. In addition, a Presidential commission should be appointed to survey and supervise all phases of mobilization planning for the machine-tool industry. Such a commission should be charged with overall responsibility for preparing in addition to a pool order program:

(*a*) A standby system of priorities whereby the industry could obtain the materials needed for immediate full scale production in the event of an emergency.

(*b*) A second standby system of priorities for the scheduling and shipment of rated machine-tool orders.

(*c*) A standby price regulation agreeable to both industry and the Government, or a recommendation that there is no need for price controls with regard to the sale of capital goods.

(*d*) Simplified forms and regulations for the procurement of machine tools.

(*e*) A program for dealing with the industry's manpower problems, including a plan for the deferment from selective service of key engineers and mechanics during the critical period of a machine tool buildup.

The machine tool industry respectfully submits the foregoing recommendations to the National Security Council and urges that a national policy be formulated by it on machine tools, the heart and core of industrial mobilization for defense, and be recommended for the approval of the President.

Respectfully,

M. A. HOLLENGREEN,
President, National Machine Tool Builders' Association.
R. A. VIDINGHOFF,
President, American Machine Tool Distributors' Association.

---

[48] Public Law 480, 83d Cong., 2d sess., 68 Stat. 454.

APPENDIX 8

COVINGTON & BURLING,
Washington, D. C., November 9, 1955.

Hon. COLIN F. STAM,
Chief of Staff, Joint Committee on Internal Revenue Taxation,
House Office Building, Washington 25, D. C.

DEAR MR. STAM: The machine-tool industry [1] submits in this letter in response to your letter of September 22, 1955, its statement to the staff of the Joint Committee on Internal Revenue Taxation for use in connection with the study of renegotiation now in progress under Public Law 216 of the 1st session of the 84th Congress. It is the industry's understanding that the study is to begin with an inquiry into three basic questions:

First. Whether the Renegotiation Act should be extended beyond December 31, 1956.

Second. Whether, if extended, the present act should be limited in scope.

Third. Whether, if the act were extended, the present reporting procedures should be modified so as to lessen the burden on defense contractors.

The machine tool industry feels very strongly that renegotiation must end. There is no justification for it whatever in our present economy, and an extension would mean that renegotiation has become virtually a permanent part of the Government's procurement relations with industry. As we shall point out, we believe this would do violence to our basic American tenets of fair dealing and free enterprise and would seriously interfere with effective low-price procurement by the Government.

Assuming that there may have been some basis in the national crisis which followed Pearl Harbor for the original renegotiation legislation which was conceived as price control and not overall profit control as at present, that crisis is long past. Renegotiation amounts under present conditions to unwarranted interference with our fundamental profit system upon which the country's social and economic system is founded under the Constitution.

It is, in effect, an income tax without a rate imposed on the basis of wholly subjective standards projected by the personal judgments of five men. Our traditional concept of the finality and sanctity of contract has gone by the board. Now we have contractors waiting 2 and 3 years after delivery to find out what their contract price and profit is to be.

Since we feel so strongly that renegotiation must end, we have difficulty addressing ourselves to the second and third questions set forth above, which assume its continuation. Moreover, renegotiation of sales of machine tools—which last for years and have established values in the commercial market—differs historically and practically from the renegotiation of military end products such as aircraft, tanks and guns, and also from the renegotiation of standard expendable supply items such as quartermaster stores and nuts and bolts. Other industry associations are filing papers which express an overall point of view, and we do not wish to burden the committee and its staff with purely repetitive material. For these reasons, we shall comment on the second and third questions only in the course of replying to the first. In discussing the first question, we shall be speaking from the point of view of the singular renegotiation experience of the machine tool industry rather than from the point of view of industry generally.

As a further preface to our statement we should like to emphasize that the evils of renegotiation are inherent in the law itself as distinguished from its administration. Faced with the almost impossible task of administering this difficult law, the Renegotiation Board has, we believe, conscientiously tried to carry out its mandates and at the same time minimize its arbitrary and inequitable impact.

I. HISTORICAL BACKGROUND

From the point of view of the machine-tool industry the further extension of renegotiation must be considered against the background of World War II machine tool renegotiation, the 1948 Renegotiation Act and its "collateral items" exemption, the partial mandatory exemption of the 1951 act, and finally the extension of the partial mandatory exemption which came with the 1954 amendments.

---

[1] Represented by the National Machine Tool Builders' Association and the American Machine Tool Distributors' Association, the members of which account for the manufacture of all but a small part ofthe country's machine tools.

The machine-tool industry believes that during World War II, machine tool renegotiation operated to the detriment of the national security. Beginning as early as 1939 right after Munich, the industry was deluged with orders, and within a space of 3 years it manufactured more machine tools than had been built in the previous 40 years of its history. These machines were durable, rugged, and long-lived, and it should have been obvious that the industry's wartime production would completely glut and saturate the immediate postwar market. But during the war renegotiation officials failed to foresee what would happen, and they accordingly required renegotiation refunds on the same order of magnitude as those paid by industries having no postwar problems. These refunds were large in terms of the meager assets of the small companies involved, and they seriously weakened the industry. During the postwar period, more than 50 companies went out of business, and it is plain that excessive wartime renegotiation refunds were an important factor in the Nation's loss of this vital machine-tool capacity which was to be so sorely needed and inadequate just 5 years later.

When it became apparent during the war that renegotiation was operating so as to weaken the machine-tool industry and impair the national security, the matter was promptly brought to the attention of Congress. The Senate Finance Committee took it under consideration, and in consequence the Senate passed the so-called Walsh amendment to the Renegotiation Act of 1943,[3] which would have exempted machine tools completely from renegotiation. This amendment lost in conference, but it is important in the history of renegotiation as showing the existence of a substantial body of opinion in the Congress for complete machine-tool exemption even under wartime conditions.

In 1948 and 1949 when the Congress passed the statutes collectively known as the Renegotiation Act of 1948, the machine-tool industry was in the depths of its postwar depression, and the actual existence of a saturated market demonstrated very forcefully the futility and indeed the danger to the Nation's defense potential of renegotiating machine-tool companies. For these and other reasons, the Military Renegotiation Policy and Review Board adopted the "collateral items" exemption from renegotiation covering machine tools as well as cutting tools and other kinds of productive equipment. This exemption provides precedent, if any is needed, for the exemption of machine tools in a peacetime economy somewhat comparable to the economy of the present.

The next step in the history of machine-tool renegotiation came with the adoption of the partial mandatory exemption contained in section 106 (c) of the Renegotiation Act of 1951. In the hearings on this measure, the machine-tool industry took the position, consistently maintained since the Walsh amendment, that it is unfair to renegotiate an industry which, by making products which last for years, in effect manufactures itself out of business in war and emergency periods. Oposition was nevertheless encountered, and in consequence the partial mandatory exemption of section 106 (c) was worked out as a compromise measure. As noted by the Senate Finance Committee which recommended the exemption, section 106 (c) was based on "an arbitrary assumption calculated to work substantial overall justice and at the same time to provide a workable rule."

Without going into the formula of the partial mandatory exemption or the details of the "arbitrary assumption" on which it was based, it soon became plain that it worked an arbitrary discrimination between contractors who sold directly to the Government or for Government account, and those who sold to defense contractors for private account. The first kind of sale was 100 percent renegotiable while the second was partially exempt, yet both sales created the same ultimate surplus and saturated market. In due course, this deficiency in the limited exemption was pointed out to the Congress and eliminated in the 1954 amendments to the Renegotiation Act of 1951.

To summarize the history of machine-tool renegotiation, we thus have (1) the confiscatory wartime refunds without any area of exemption which weakened the industry and contributed to a reduction in vitally important machine-tool capacity; (2) the intial recognition of the problems of the industry in the Walsh amendment and in the collateral items exemption under the 1948 act; (3) the compromise represented by the partial mandatory exemption in the 1951 act; and (4) finally the elimination in the 1954 amendments of the discrimination

[3] See 90 Congressional Record 504 (1944); S. Rept. No. 627, 78th Cong., 1st sess., pp. 2, 8–9 (1943).

and inequity inherent in the compromise. We shall now try to make it clear that the next step in the process should be the end of renegotiation, certainly for machine tools and other products with a commercial market.

II. THE BASIC OBJECTIONS TO THE RENEGOTIATION OF MACHINE TOOL SALES

We shall begin by restating the overall inequity and difficulty in the renegotiation of machine tool sales whether in a wartime or peacetime economy.

As has already been suggested, the heart of the problem lies in the feast-or-famine characteristics of the machine-tool industry. Even in peacetime, machine-tool companies are likely to be "way up or way down." But the volume of emergency production exaggerates the cycle by creating surpluses and saturation, and in consequence there arises a situation in which it is hard to see how machine tool profits can ever be characterized as excessive. The renegotiator, however, is likely to look at this volume and conclude that because it gives rise to large profits there must be excessive profits. Too often he does not realize that these are the profits which would have been earned in an orderly way over a longer period if there had been no emergency. These are the profits which must tide the machine-tool industry over the lean years of markets saturated with Government and civilian surpluses.

We have already mentioned the industry's World War II and postwar predicament. During the war years, orders were received and machines turned out at a previously unheard of rate. But unlike the situation of the war profiteer who liked his fortuitous volume and at which renegotiation was originally directed, the flood of orders was nearly calamitous to many of the small companies making up the industry. These companies saw their production triple and triple again, but they knew that the consequent profits represented an anticipation of the profits of future years. They knew that these wartime machines would return to haunt them. They realized that they were peaking their profits into a period of high excess-profits taxes and renegotiation, and most of them tried, without success, to set aside funds to meet the requirements of the postwar machine-tool depression. Many of them did not have adequate funds left after taxes and renegotiation for the deferred engineering and development which was so vital to growth—and even survival.

As already mentioned, more than 50 companies went out of business in the postwar period, and in retrospect it is now plain that average machine-tool profits from 1940 through 1950 could in no sense be deemed excessive. The difficulty was that wartime renegotiation looked at the peaks of 1942–45 and not at the inevitable valley of 1946–49. In consequence, it worked out very unfairly to the individual companies involved. But more important, it led to a reduction in vital machine-tool capacity which in turn contributed to the machine-tool bottlenecks of the first years of the Korean emergency. These bottlenecks seriously impeded defense production.

In renegotiation under the 1951 act, the Renegotiation Board, like the Congress, has brought considerably more understanding to bear on the industry's problems. The compromise partial exemption to a very considerable extent precluded the same arbitrary renegotiation of World War II. In consequence, the inequities of World War II renegotiation have been minimized. Moreover, the peaks of Korea were not so extreme as those of 1942 and 1943, and as a result the immediate valley is not so deep. Nevertheless, there is the beginning of a valley for the industry at this very moment and a very deep valley already for certain areas of the industry. This in itself is a reason why there should be no further extension of machine-tool renegotiation. In this valley of reduced sales and profits, the traditionally keen competition is keener than ever. The Government clearly has no reason for concern about the reasonableness of prices or profits. It should be willing to pay the same price as the commercial buyer in this competitive market. It should not be insisting on special discounts and retroactive pricing through the renegotiation process.

But quite apart from the present valley and the existence of the most stringent competition, we believe the committee will wish to keep the principle derived originally from the World War II experience constantly in mind. The principle is that it is basically unfair to the individual contractor and dangerous to the national security to impose annual renegotiation, even in wartime, on important defense industries without regard to their basic differences and problems inherent in this varying pattern of production and operations.

Whatever justification may be given for this kind of retroactive price-control legislation in wartime, it is clear that in peacetime such price-control legislation

cannot be justified, particularly when it has evolved into overall profit control administered by subjective judgments under elusive and intangible standards. There is considerable evidence, including statements made by Board members themselves, that the law is almost impossible of administration no matter how conscientiously the Board tries to mete out "rough justice."

Even if the scope of the act were limited to new items of military procurement which do not have any competitive commercial market, as has been proposed, the statute would have to be overhauled to restore it to a pricing measure and not a Procrustean bed of overall profit control.

III. MACHINE TOOL RENEGOTIATION IN THE PRESENT ECONOMY

A. The machine tool industry has little prospect for defense business

Competitive peacetime conditions now exist in the machine-tool industry, and this in itself is a sufficient ground for ending machine tool renegotiation.

As was the case in World War II, the demand for machine tools came in the early stages of the Korean emergency. By the end of 1953, despite a continued high level of defense spending, machine-tool sales began to fall off, and in 1954 they were substantially below the 1953 level.

At the present time, a relatively small amount of Government money is going for machine tools. The factories designed to bring the Air Force to the 137-group level have been largely tooled, and the other main Korean programs have also progressed to the production stage and beyond. Until very recently, the principal current Government machine-tool program was that inaugurated under the so-called Vance plan appropriations consisting of $100 million for reserve machines in both fiscal 1955 and 1956. These appropriations were very much less than those contemplated by the original Vance plan which called for annual appropriations of from $500 million to $800 million a year, and it has always been doubtful whether they would maintain machine-tool production at healthy levels. Within the last month it has been reported that much of these appropriations may be allowed to lapse in the interest of the economy drive to balance the budget.

Meanwhile, as has already been suggested, many machine tool builders, particularly manufacturers of standard general-purpose machines of the kind used in defense production, are beginning to find their market saturated with their Korean production. Surplus sales at bargain prices are regularly advertised and held. Competition for orders is stronger than ever and there is no possibility of any company's charging excessive prices or earning excessive profits.

In brief, the machine-tool industry is down considerably from its Korean peak. It is being carried by commercial orders for the special, high production machinery required by the automotive and similar industries. It does not have much defense business, and its prospects for such business short of full-scale emergency are very dim. It has lost much of its export market due to the rehabilitation of the European machine-tool industry largely with United States funds. It follows that there is no basis for continued machine-tool renegotiation no matter what conclusions might be reached as to the necessity for renegotiation in an emergency period.

B. Renegotiation as profit control

Another reason for ending renegotiation in general, and machine-tool renegotiation in particular, is to be found in the operation of the present act as a profit-control device.

Renegotiation began as a pricing measure. Its purpose was to provide procurement officers with a second look at prices which could not be adequately considered in the rapid-fire contract negotiations of the post-Pearl Harbor period. But as renegotiation has developed, it has become more and more a profit-control device and less and less a pricing measure.

A specific example based on an actual machine-tool case will show how renegotiation operates as a profit-control device. Company X sells a line of machine tools for $10,000 each and makes a profit of 25 percent on sales. It can and did make a better case under every one of the so-called statutory factors than its principal competitor, the Y Co. Y sells a comparable machine for $12,000, but because it is less efficient, its profits amount only to about 10 percent. The way renegotiation is presently operating, company Y would be cleared (and as a matter of fact was cleared), but company X would be required to pay a refund and was so required in the renegotiable year. Renegotiation thus controls profits rather than prices. If price rather than profit were the criteria,

Y rather than X might have to pay the refund. Generally speaking, it can be said on the basis of a survey of machine-tool renegotiation cases, that the lowest cost, most efficient builders have been required to pay the largest refunds despite the fact that they sold their machines at prices competitive with or even lower than those of their competitors who in many instances were cleared.

It will be evident to anyone that, as a profit-control device, renegotiation drives the most efficient, high quality manufacturers away from the Government into commercial markets. Conversely, it drags the less efficient marginal operator or inferior foreign machines into the Government orbit. There is not the same patriotic compulsion to sell to the Government in peacetime, especially when the Government insists on being treated as a preferred customer entitled to buy machines at prices lower than the experienced buyers in the automobile industry and others are willing to pay. In a peacetime economy machine-tool companies that can make 20 percent or more on commercial sales can be expected to concentrate on those sales rather than on sales to the Government which after the expensive, time-consuming renegotiation process yield smaller profits.

It is, of course, true that at the present time the Government is enjoying along with commercial customers some of the advantages of a buyers' market. But the best companies, those with the highest quality machines, are not affected quite so seriously by such slumps, and although renegotiation's tendency to drive the Government toward marginal producers may be more pronounced in other industries, it has a considerable effect on machine-tool procurement.

Actually, the adverse effect of renegotiation on the Government's buying capabilities is in some respects most serious in the machine tool area. This is because machine tools form the heart of defense production capacity. To the extent that it forces the Government to purchase cheaper machines, renegotiation is undermining the national security.

C. Renegotiation as a pricing measure

If we take the correct historical point of view and regard renegotiation as a pricing measure, it is just as apparent that there is no need for further extensions of the act. This is because there are now countless other pricing devices which fill the need which originally gave rise to renegotiation. Moreover, procurement officers have had 14 years' experience since Pearl Harbor, and they have achieved substantial mastery of many of the intricate problems which then seemed to require a second look at prices.

The advances in pricing techniques have been particularly pronounced at the prime contract level where the Vance plan buying of machine tools has thus far taken place. Contracting officers have been completely unhurried in their operations, and there is nothing of urgency in the atmosphere which should necessitate a second look at prices. Moreover, and if a second look should ever seem essential, there is always the possibility of using price redetermination clauses, incentive contracts, and the similar devices provided in part 4, section III of the armed services procurement regulation. While the machine tool industry is convinced that machine tools should be purchased on a fixed price basis just as they are purchased by the most discerning buyers in the commercial market, renegotiation is by no means the only answer if situations should arise where prices on novel and unusual machines cannot be adequately judged in the precontract phase.

At the subcontract level there are also many means for policing subcontract prices if there is not an established price in the commercial market. Thus subcontract prices are always prime contract costs, and by questioning these costs, alert contracting officers can and do put a great deal of pressure on subcontractors. Actually, in the area of machine tool subcontracts the reasonableness of price can be readily ascertained by any contracting officer. Then, too, there are the very extensive powers of audit conferred by Public Law 93 of the 83d Congress, 1st session. Although this statute has not often been invoked or needed in the machine tool industry, it is available and has been used in other industries very effectively to control subcontract prices and profits.

In summary, there is no justification for the continuation of renegotiation as a pricing measure on these commercial products even if there were ways and means to prevent its practical operation as a profit control device. This is true at the prime contract level where Vance plan buying has thus far taken place, and it is equally true at the subcontract level.

D. Other factors

In the course of the industry's very extensive experience with renegotiation since 1942, it has observed a variety of other factors which suggest very strongly

that, despite the conscientious efforts of renegotiation officials, renegotiation operates arbitrarily and unfairly. Some of the more important of these factors are as follows:

1. *Net worth.*—At the present time, the Renegotiation Board seems to be placing much more emphasis than is proper upon returns on net worth and—what is worse and completely unrealistic—returns on net worth before taxes. This probably stems from the mistaken emphasis placed on this point in the most recent hearings before the Senate committee.[2] This favors industries that rely primarily on bricks and mortar for their earnings, and it penalizes machine tool companies and similar enterprises in which to a very considerable extent profits are the result of technical, scientific, and engineering skills. Thus, there is already some evidence in Board determinations of a 50 percent ceiling on allowable returns on net worth. But many machine tool companies earn more than that simply by selling high-quality, skillfully engineered pieces of equipment at relatively low prices in a highly competitive market. As applied to such companies, the use of the net worth factor as a basis for refunds amounts to profit control pure and simple. It mistakenly brings the public utility concept of profit control based on a ready-made market into the area of highly competitive industries striving for a share of a market to be created. There is no justification whatever for this unimaginative net worth yardstick in the historical purposes of renegotiation. This overemphasis tends to drive away from Government procurement not only the most efficient, low-cost producers but also the companies with the best engineering, development, and know-how which is so vitally needed in creating new defense products.

We are informed that the National Security Industrial Association is about to file with the Board a statement of the arbitrary character of the present emphasis on returns on net worth. The machine tool industry endorses the views expressed in that study, and points out that because of the importance of engineering in machine tool manufacture, returns on net worth of machine tool companies are peculiarly misleading standards for comparison in renegotiation and elsewhere.

2. *Uncertainty.*—Many machine tool companies have not settled their 1952 and 1953 cases although 1955 is almost at an end. They are still waiting in 1955 to find out what the Government thinks the price should have been on a machine sold in 1951 or 1952. They still do not know either the price or the profit. The consequence is complete uncertainty as to their financial status. This in turn has a restrictive effect upon a company's operations and in some instances even its credit. It adversely affects the market value and the marketability of corporate stock, and unduly postpones the modernization and expansion of physical plant and the engineering and development of new products which a company would otherwise undertake. It is a serious brake on industrial growth and expansion so necessary to increase the national income to provide an adequate base for taxation to meet defense expenditures.

3. *Time and expense.*—Even when it is not protracted and results in a clean bill of health, renegotiation takes much too much of the time of both top management and other financial personnel. The time and effort required could much better be spent in productive activities, including activities connected with defense production. There are a number of instances in this industry, particularly in the case of small companies, where the expense of preparing and presenting renegotiation data exceeded the amount of the refund. When the expense to the Government is added to this, there is further support for the figures which have been submitted to the committee that the Government realized little or nothing net from the renegotiation process.

4. *Accounting.*—In many cases, renegotiation denegerates into an accounting exercise. Regional board accountants demand explanations and suggest adjustments in areas where there could be absolutely no effect upon the ultimate determination. Moreover, they often insist upon an extension of companies' cost systems into areas for which they were never designed and in which their application involves plain distortion. Under the broad authority of the act they have, in effect, a license to make a complete audit of every company in the country which has even a few dollars of renegotiable business. It is doubtful if Congress realizes the full implication of this authority. These demands and inquiries put smaller companies particularly at a disadvantage because of their simpler accounting systems.

---

[2] Hearings on H. R. 4904 before the Committee on Finance, U. S. Senate, 84th Cong., 1st sess., committee print.

5. *Standard commercial article exemption.*—It seems clear that this exemption has been practically emasculated by administrative interpretation. But in fairness to the Board it must be said that the language of the statute invited this result. The statutory test of "competitive conditions" as interpreted by the Board in effect imposed upon the Board the impossible burden of probing the areas of the antitrust laws without the time or staff to gather the evidence necessary to an informed judgment. The result is that they resolved the question within the time limit allowed and carved out a substantial area of the exemption. The exemption has been denied to companies in this industry on standard commercial products in areas of the most intense competition where the Government has complete protection on prices established in the competitive commercial market.

CONCLUSION

Renegotiation was born in the first 4 months of a great national crisis, and even before the war ended, many believed that it had gone too far as Government by men and not law. Today we are not at war and we are poles removed from the atmosphere and the competitive situation that existed in early 1942. Under present conditions there is no justification for any kind of renegotiation. To decide otherwise would mean a precedent which could establish renegotiation—overall profit control—on the statute books in perpetuity. Even if the renegotiation law fitted into our traditional American pattern and were possible of fair administration, it simply is not needed today.

Respectfully,

JOEL BARLOW,
Counsel for National Machine Tool Builders' Association and American Machine Tool Distributors' Association.

APPENDIX 9

UNITED STATES SENATE,
SELECT COMMITTEE ON SMALL BUSINESS,
December 12, 1955.

HON. DUDLEY C. SHARP,
Assistant Secretary of the Air Force (Materiel),
The Pentagon Building, Washington, D. C.

MY DEAR MR. SECRETARY: As you are aware, the Senate Small Business Committee has long been interested in the soundness of the machine-tool industry. The vitality of this industry reflects not only upon our ability to produce for defense in a future emergency, but upon the health of our small-business community as well. For those reasons, I would appreciate full information as to the current status of the Department of the Air Force programs and planning as they relate to the machine-tool industry.

I would appreciate a current status report as to the Department of Air Force contributions to the inventory of Government-owned machine tools. A report as to the status of Air Force mobilization plans in this vital area is also desired. I would be interested in a breakdown of the current inventory of Air Force controlled tools as between those in active use, by leasing or otherwise, and idle in stockpile. Further, what is the status of Air Force thinking concerning the procurement of long-lead-time machine tools.

Would you please provide information as to the degree of obsolescence of Air Force machine-tool holdings. Your opinions as to the desirability of instituting a replacement program to insure that machine tools and related resources are kept in a relatively modern condition would be helpful. I understand that technological advances in the last few years have resulted in machine tools with an efficiency level vastly greater than World War II models. Is it possible that a realistic replacement program could achieve operating economies sufficient to be self-supporting while at the same time increasing our productive capacity in a future emergency?

There is no disposition to limit your reply to the above question as I am anxious to get the fullest possible expression of your views on this subject. Our experience during World War II, and later in Korea, clearly showed that a shortage of machine tools and deficiencies in mobilization planning were a deterrent to our defense production. Briefly, what I am now seeking to ascertain is where we now stand as to: (1) the sufficiency of our current machine-tool

inventory, (2) the adequacy of mobilization plans to utilize these tools in a future emergency, and (3) the desirability of instituting a replacement program to maintain the vigor of this asset.

In order that this information may be fully collated for the benefit of committee members, a reply by December 28 is required.

With kindest personal regards.

Sincerely yours,

JOHN SPARKMAN, *Chairman.*

APPENDIX 9 (a)

DEPARTMENT OF THE AIR FORCE,
OFFICE OF THE SECRETARY,
Washington, D. C., January 13, 1956.

Hon. JOHN SPARKMAN,
Chairman, Select Committee on Small Business,
United States Senate.

DEAR MR. CHAIRMAN: In your letter dated December 12, 1955, you have requested a report concerning the current status of the Air Force machine-tool program.

The Department of the Air Force very recently adopted an industrial production readiness policy designed to create industrial readiness as an integral part of our active production base. This new policy is based on the premise that, for the first time in modern history, our Nation is faced with a continuing potential threat of devastating destruction at the onset of general war. Thus, the possibility of a full-scale war of attrition with a prolonged munitions production buildup is minimized, if not eliminated. The decisive phase of a full-scale war will be relatively short and assets for its conduct must be in hand or available over a minimum period. Conversely, it is probable that lesser acute emergency situations, without domestic industrial damage, will arise which require accelerated production of some selected munitions.

To make this policy into a meaningful program requires that production sources have proper equipment to meet current schedules and selected sources have capacity which, through the addition of material and manpower, will permit accelerated production. As the initial step, the Air Force reoriented its portion of the reserve tool and facilities program from the buy-and-store objective to one of buy and use. Full benefit was taken of the effort expended on and accomplishments of the former program in implementing the latter program, in that essentially the same tools, incorporating the latest technological advancements, were procured. As these tools are delivered, they will be placed in active production to meet existing requirements and to replace obsolete tools and those worn beyond economical repair. Subsequent phases of this program will (*a*) procure more tools over a broader range, and (*b*) utilize for the same purposes those tools from the Air Force inactive reserve which are suitable.

The Air Force industrial equipment inventory combines machine tools and related production equipment and totals approximately 145,000 items of value in excess of $500 each. Of this number, approximately 87,000 are machine tools, with approximately 24,000 being in idle storage. These are approximate figures and subject to change. Forty thousand machine tools, including active and inactive, are 10 or more years old with varying degrees of obsolescence. Under the terms of the readiness policy, time will not permit movement of tools from idle storage to active production, nor procurement of new tools for post attack production. Likewise, to be effective in a lesser emergency, qualified capacity must be available in an operating production line. Obsolete and ineffective tools are costly to operate. The Air Force feels that, where operating economics so indicate, these tools should be replaced.

The necessity for an effective machine-tool industry is well appreciated. Under the current modernization and replacement program the Air Force is procuring approximately 697 machine tools at a cost of approximately $69 million. It is felt that implementation of the Air Force readiness policy, insofar as machine tools are concerned, together with programed facility expansions and normal commercial machine-tool business, will be instrumental in maintaining an aggressive, effective machine-tool industry. Implementation

of this policy will better equip the Air Force to secure its production requirements.

The foregoing is in accordance with the policy recently announced by the Department of Defense.

Sincerely yours,

DUDLEY C. SHARP,
Assistant Secretary of the Air Force.

APPENDIX 10

UNITED STATES SENATE,
SELECT COMMITTEE ON SMALL BUSINESS,
December 12, 1955.

Hon. RAYMOND H. FOGLER,
Assistant Secretary of the Navy (Material),
Main Navy Building, Washington 25, D. C.

MY DEAR MR. SECRETARY: As you are aware, the Senate Small Business Committee has long been interested in the soundness of the machine-tool industry. The vitality of this industry reflects not only upon our ability to produce for defense in a future emergency, but upon the health of our small-business community as well. For those reasons, I would appreciate full information as to the current status of the Department of the Navy programs and planning as they erlate to the machine-tool industry.

I would appreciate a current status report as to Department of Navy contributions to the inventory of Government-owned machine tools. A report as to the status of Navy mobilization plans in this vital area is also desired. I would be interested in a breakdown of the current inventory of Navy-controlled tools as between those in active use, by leasing or otherwise, and idle in stockpile. Further, what is the status of Navy thinking concerning the procurement of long-lead-time machine tools.

Would you please provide information as to the degree of obsolescence of Navy machine-tool holdings. Your opinions as to the desirability of instituting a replacement program to insure that machine tools and related resources are kept in a relatively modern condition would be helpful. I understand that technological advances in the last few years have resulted in the machine tools with an efficiency level vastly greater than World War II models. Is it possible that a realistic replacement program could achieve operating economies sufficient to be self-supporting while at the same time increasing our productive capacity in a future emergency?

There is no disposition to limit your reply to the above questions as I am anxious to get the fullest possible expression of your views on this subject. Our experience during World War II, and later in Korea, clearly showed that a shortage of machine tools and deficiencies in mobilization planning were a deterrent to our defense production. Briefly, what I am now seeking to ascertain is where we now stand as to: (1) The sufficiency of our current machine-tool inventory; (2) the adequacy of mobilization plans to utilize these tools in a future emergency; and (3) the desirability of instituting a replacement program to maintain the vigor of this asset.

In order that this information may be fully collated for the benefit of committee members, a reply by December 28 is required.

With kindest personal regards.

Sincerely yours,

JOHN SPARKMAN, *Chairman.*

APPENDIX 10 (a)

DEPARTMENT OF THE NAVY,
OFFICE OF THE SECRETARY,
Washington, January 6, 1956.

Hon. JOHN SPARKMAN,
Chairman, Select Committee on Small Business,
United States Senate, Washington 25, D. C.

MY DEAR SENATOR SPARKMAN: For many years the Navy has been keenly aware of the importance of machine tools for defense programs. Accordingly,

we were very happy to receive the expression of interest contained in your letter of December 12.

In this reply, your specific questions appear as numbered paragraph headings, with our specific replies immediately thereafter. Our more general comments on policy matters then follow.

1. Current status of Navy-owned machine tools:

	Items	Value
In use	138,300	$835,000,000
Idle	17,200	156,000,000
Total	155,500	991,000,000

The Navy owns approximately 495,000 items of production equipment with an original acquisition cost of about $2 billion. As the table indicates, machine tools comprise about one-third of these items by number and one-half by value.

Whenever possible, this production equipment is maintained in the plants in which it is presently located, provided the plant is expected to be used for mobilization production. When this is not practicable, equipment is stored close to the planned usage point. When neither of these two alternates is possible, the equipment is stored at Government-owned warehouses. Keeping these reserve tools and facilities ready for use of course generates continuing maintenance costs.

2. Status of Navy mobilization plans for machine tools

So far as available resources permit, the Navy endeavors to have, for each significant end item, complete mobilization plans constantly ready for any emergency. Among many other elements, such plans include the earmarking of many of the idle tools just listed, in the form of package plants ready for specific production programs in the event of mobilization.

3. Status of Navy thinking concerning procurement of long-lead-time machine tools

We are continually conscious of our needs for such tools and of the clear desirability for acquiring them prior to any mobilization. Unless we do so, we will not have the productive capacity we expect to need if war should come. Peacetime procurement of properly selected long-lead-time machine tools allows direct reduction in material inventories required for mobilization readiness. Thereby we get better readiness for lower cost. This philosophy is expressed in a current machine-tool press release by the Department of Defense which describes its new policy "designed to permit the procurement of long-lead-time machine tools, prevent obsolesence and achieve flexibility in the use of reserve tools," and "to insure the maintenance of an up-to-date, modern inventory of reserve tools."

4. Information as to the degree of obsolescence of Navy machine tool holdings

Approximately 60 percent of our current inventory of machine tools was built during World War II or earlier; this fact is, of course, of major concern to us. American Machinist magazine, in its issue for mid-November 1953, stated that its midcentury inventory showed 95 percent of the 1,762,000 machine tools used in metalworking were more than 10 years old—and in a tabulation showed that the lack of modern improved machine tools in American industry wastes direct labor worth a billion dollars a year. Thus apparently the Navy's situation is reasonably comparable with that of American industry generally.

The degree of improvement varies very markedly among machine-tool types. Hence, age alone does not justify the replacement of tools. Many of our old special-purpose tools are still able to satisfy the limited specialized use for which they are needed.

Any realistic mobilization reserve tool program must allow for obsolescence due both to changes in methods of production and to the development of improved weapons which require different tools. Reserve tools for which there is no longer a need are being disposed of, and, under current policies of the Department of Defense, new tools may be procured to produce efficiently the most recently developed military items.

5. Our opinion as to the desirability of instituting a replacement program to insure that machine tools and related resources are kept in a relatively modern condition

For some time we have been concerned because of the adverse effect that tool obsolescence is having on the costs and delivery schedules of our current productive effort, and will have on any all-out mobilization efforts. The highly productive machine tools displayed at the Machine Tool Show at Chicago in September 1955 confirmed our view that a systematic tool replacement program is most desirable. This matter is further discussed below.

6. Is it possible that a realistic replacement program could achieve operating economies sufficient to be self-supporting while at the same time increasing our productive capacity in a future emergency?

The magnitude of the Navy holdings of machine tools has dictated a judicious approach to a replacement program. A sampling of 5,000 machine tools used by the Navy Bureau of Ships indicated that most of these tools are from 11 to 15 years old, and that at current operating levels, it is economically sound to replace many of these tools now. In this study, we used the replacement formula of the Machinery and Allied Products Institute, modified for our specific needs. In using the formula, two modes of operation had to be considered: (*a*) Current peacetime operation, in which dollar economy is the governing factor, and (*b*) production following mobilization, in which economy of time and skilled manpower are the governing factors.

We feel very strongly the importance of an enlightened and aggressive policy directed toward the modernization and replacement of machine tools and facilities in our Shore Establishment. Replacement of obsolete equipment in the past has been minimal, with only limited funds earmarked therefor. In the future the Navy desires to follow the course used successfully by industry in recent years, whereby obsolete equipment is replaced on a continuing basis. Such a program would aid in modernizing our military production facilities. Other parts of the Department of Defense and other Federal agencies have unofficially expressed interest in this sort of replacement program. We believe that this is covered by the newly announced machine tool policy of the Department of Defense.

Your suggestion that we provide additional comments prompts us to offer the following more general statements.

The rapid increase of highly specialized, single-purpose tooling has greatly reduced the possibility of converting existing tools to military production. In contrast to World War II, during which a substantial fraction of all machine tools used for the manufacture of automobiles was converted to war production, it is now estimated that a much lower proportion of the tools used for automobile manufacture could be so converted.

In World War II and the Korean war, the provision of the necessary machine tools proved to be one of the biggest bottlenecks, and one of the last to be corrected. Generally speaking, we increase our ability to defend ourselves as we broaden and diversify our national complement of production equipment. Inasmuch as some tool types are more essential than others in making munitions, it is particularly important that we have adequate numbers of certain types of tools. Fortunately it is possible to predict with reasonable accuracy those types of machine tools and other production equipment for which the need would be greatest in event of war.

The Navy believes in buying, in advance, to the maximum extent practicable, the production equipment needed to provide flexibility, productive capacity and lead time. It is of course extremely difficult to set a specific figure for this. We expect vigorously to pursue this objective under the new defense policy quoted above.

It is sometimes argued that a future war will begin with enemy attack so catastrophic as to eliminate the possibility of using such equipment. The Navy has great reservations with respect to this reasoning. It overlooks the fact that properly selected machine tools represent the best provision for national recuperation in such an event. Also, it presupposes that we will as a nation fail to provide the means to minimize or ward off such an enemy attack.

Hence, as noted above, the Navy believes that advance provision of carefully selected tools in such quantities as may be feasible is clearly in the national interest, and is happy that the new defense policy permits that course of action.

As I have already indicated, the Navy heartily welcomes your expression of interest and concern in this subject, which is of such vital importance for national defense.

I hope that the information supplied above will satisfy your requirements. If it does not, please do not hesitate to call on me for any further information need.

Sincerely yours,

R. H. FOGLER,
Assistant Secretary of the Navy (Material).

APPENDIX 11

AMERICAN MACHINE TOOL DISTRIBUTORS' ASSOCIATION,
Philadelphia, Pa., February 21, 1956.

Hon. EDWARD J. THYE,
Chairman, Subcommittee on Relations of Business With Government,
Select Committee on Small Business,
United States Senate, Washington, D. C.

DEAR SENATOR THYE: After testifying on February 8, 1956, during your committee's hearings on machine tools, I learned about an Army proposal for legislation which I should like to bring to your attention. The proposal is for an amendment to section 405 of the National Security Act so as to provide, in the language of the proposal, for "depreciation of machinery and equipment in connection with working capital funds." In other words, as I understand it the proposal contemplates the creation of a working capital fund, comparable to those already authorized under section 405, for the financing of machinery replacement programs by way of depreciation charges.

Since I do not have the details of the Army proposal, I cannot comment upon it fully, but I should like to say that legislation of this general character would provide the much needed continuing funding. In the absence of such legislation, the Government has been forced to rely on the regular annual budgeting and appropriations processes for its capital replacements, and this is one of the principal reasons why machine-tool modernization programs have been given desultory and uneven treatment over the years. In the industry view, the Government should be able to provide for modernization by way of depreciation reserves and regular capital replacement funds in a manner similar to the practice of private industry, and we feel that specific legislative authority along the lines of the Army proposal should be provided.

Respectfully,

JAMES C. KELLEY, *General Manager.*

APPENDIX 12

PRICE ESCALATION IN MACHINE-TOOL PROCUREMENT

(Joint statement by Louis Polk, president, National Machine Tool Builders' Association, and Henry R. Hanson, president, American Machine Tool Distributors' Association, March 13, 1956)

SUMMARY

The Air Force has recently adopted a substantial deviation from ASPR 7–106.4 which prescribes an escalation clause for use in the procurement of semistandard supplies. Under the prescribed clause, the contract price may be escalated to the level of the contractor's regular established list prices if the contracting officer agrees to accept the escalation, but under the Air Force deviation the price increase must also be "directly attributable" to increases in labor and material costs. The effect is to change the prescribed price-type escalation clause into a cost-type clause of the kind that caused controversy and delay during the Korean machine tool shortages.

In view of the Korean experience with cost-type escalation clauses in machine-tool procurement, the machine-tool industry believes that the armed services procurement regulation should be amended so as to provide plainly that there can be no deviation from the prescribed clauses in machine-tool procurement. In addition, the industry strongly advocates the following:

First. ASPR 7–106.3 and 7–106.4 should be amended so as to make it plain that the semistandard supplies clause rather than the standard supplies clause should be used in machine-tool procurement.

Second. ASPR 7–106.4 should be amended so as to remove the 10-percent ceiling on escalation and provide for the negotiation of ceilings on a case-by-case basis.

Third. ASPR 7–106.4 should also be amended so as to remove the prohibition on the use of the perscribed clause in contracts providing for deliveries in less than 6 months.

Fourth. Consideration should also be given to the development of a special escalation clause for use in the procurement of long-lead-time productive equipment in periods of emergency.

The industry feels very strongly that in the absence of these amendments or the promulgation of a special emergency escalation clause, controversies over escalation would seriously impede machine-tool procurement in any new emergency. Similar controversies contributed very considerably to the machine-tool bottleneck of 1951 and 1952, and it would appear that both government and industry should attempt to profit from the Korean experience.

THE KOREAN EXPERIENCE

At the beginning of the Korean emergency, the Armed Services Procurement Regultaion did not deal with price escalation. The regulations of the three services were either silent on the subject or very incomplete, and so escalation had to be negotiated in machine-tool procurement almost on a case-by-case basis.

Meanwhile, it became apparent by early 1951 that machine-tool builders had to have price escalation clauses in their defense contracts. For one thing, deliveries on most orders could not be made for many months, and labor and material costs were rising in an inflationary spiral. Meanwhile, machine-tool builders were expending large sums for overtime, subcontracting, and duplicate tooling. Since these costs were not reflected in the initial price ceilings on machine tools, the ceilings were completely unrealistic, and a general price increase was in prospect. Machine-tool builders needed escalation clauses both to protect them against the spiral and to permit them to make necessary revisions up to price ceilings, and in August of 1951 the ceilings were actually raised by the Office of Price Stabilization after very complete proof of the necessity for an increase.

In this situation, the necessity for case-by-case negotiation of escalation clauses held up many machine-tool contracts for days or even weeks. And in these negotiations, the controversies followed a pattern in which two problems emerged as particularly significant.

First, there was the controversy relating to price-type and cost-type escalation clauses. Some procurement activities insisted on clauses which keyed the escalated price directly to increases in labor and material costs. But this type of clause necessarily leads to audits of detailed cost data which are both unnecessary and impracticable in the procurement of commercial articles like machine tools. Machine tools are ordinarily manufactured in lots; they are made up of literally hundreds of parts and subassemblies each of which may have been made up in a different lot quantity over a number of different manufacturing periods. It is virtually impossible to trace the so-called actual cost and to determine the amount of increase over a previous period. For these reasons and since most machine tools are customarily sold on the basis of established list prices which are the same for all customers, the machine-tool industry insisted in most cases upon the use of price-type escalation clauses instead of those of the cost type, and, in the end, most procurement activities agreed with the industry position. Cost-type clauses were used only in the procurement of custom-built special machinery and heavy presses which are not customarily sold on list prices.

Price-type escalation clauses ordinarily permit escalation up to the list price established for customers generally, but they contain an escape provision which permits the contracting officer to reject the escalated price if he deems it excessive. In the early stages of Korea, a price-type clause known as Able provided that in the case of a rejection, the contract would be terminated without cost to the Government. But the consequence of the provision for a no-cost termination was to throw the risk of nonmarketability at termination upon the seller, and for reasons more fully discussed below, the machine-tool industry was unwilling to accept this risk. After protracted negotiations and delays, most procurement activities accepted the industry position, and by the end of Korea, most machine tools were being bought on contracts containing a clause known as Able Modified. This was a price-type clause which provided for termination

for the convenience of the Government under ASPR VIII whenever the contracting officer decided to reject the escalated price.

There were other controversies over escalation during the Korean emergency, and Able Modified was not a perfect clause. Nevertheless, both government and industry had learned to live with it, and by letters dated October 21, 1953, December 1, 1953, and August 3, 1954, the machine-tool industry suggested to the Defense Department that Able Modified should be written into the Armed Services Procurement Regulation as standard for machine tool procurement. This, unfortunately, was never done, and the present practices and regulations represent in many respects a retrogression to the pre-Korean situation.

THE REAPPEARANCE OF COST-TYPE ESCALATION CLAUSES

On April 27, 1955, the Armed Services Procurement Regulation was amended by the addition of the standard escalation clauses contained in section 7–106. The new section contains price-type escalation clauses for use in contracts for standard and semistandard supplies, and the machine-tool industry at once assumed that these clauses would be used without deviation in the procurement of machine tools that are customarily sold on a list-price basis.

As a practical matter, ASPR 7–106 was not tested until December of 1955 because in this period machine-tool builders did not generally ask for price escalation. But in the Air Force procurement of the very long lead-time machine tools which took place at Wright Field in late 1955, escalation clauses were requested. In the ensuing negotiations, the Air Force apparently agreed that the machines in question were semistandard supplies, for it proposed the escalation clause for such supplies provided by ASPR 7–106.4. But it deviated from section 7–106.4 by inserting the following subparagraph:

"Any increase in unit price shall be made only (A) if, after the date of this Contract, there is an increase in the Contractor's average direct or indirect labor rates and/or the cost of materials, including purchased parts, and (B) if such increase in unit price is directly attributable to such increase in average labor rates and/or increase in cost of materials."

It will be apparent that by adding the above provisions, the Air Force has changed an ASPR price-type escalation clause into a cost-type clause of the kind which raised extreme controversy during 1951 and 1952. Moreover, the revised clause would not be acceptable to most of the industry in an emergency, and it was actually accepted by the contractors involved in the long-lead-time program only because of extreme Air Force pressure, the size of the procurements relative to the existing machine-tool market, and the absence of a real inflationary spiral. During an emergency, it would be acceptable, if at all, only to manufacturers of special machinery which is not sold on a list-price basis.

There are many reasons why the revised clause would not be acceptable in times of emergency, but it is sufficient for present purposes to point out that most machine-tool prices, and price increases, are not calculated solely on the basis of labor and material costs. Nor are price ceilings in times of emergency. Many other factors are involved, and experience has shown that unnecessary and burdensome audits are the main consequence of any attempt to key escalation to particular cost increases. Moreover, the Government does not need a cost-type clause for its protection. It is fully protected by the right to reject the escalated price and insist upon a termination for convenience which ASPR 7–106.4 vests in the contracting officer, and in times of emergency it will have the further protection of price ceilings.

It is believed that the machine-tool industry's objections to cost-type escalation clauses are shared by every industry which sells its products on a list-price basis, and this, as we conceive it, is the reason why the Armed Services Procurement Regulation prescribed price-type escalation clauses for standard and semistandard supplies. The Air Force revision of the escalation clause for semistandard supplies thus appears to be an unauthorized deviation from ASPR 7–106, and if the language of section 7–106 can be construed to authorize this particular deviation, we believe it should be altered so as to prevent future deviations. Otherwise, procurement activities will be free to insist on the employment of cost-type escalation clauses in the procurement of articles customarily sold on list prices, and in the event of another emergency, controversies of the Korean type would inevitably impede machine-tool procurement.

Actually, the Air Force revision of an ASPR escalation clause presents a prime example of the confusion in machine-tool procurement mentioned in our memorandum of October 21, 1953, for the General Counsel of the Department of Defense. In that memorandum, we stressed the number of different contract clauses that were used in machine-tool procurement, and we suggested both that there should be standard clauses on all important subjects at the ASPR level and that there should be no lower-echelon deviations from those clauses. In the light of its history, price escalation in machine-tool procurement would appear to be a subject which should be covered in the ASPR, and deviations should not be permitted.

OTHER PROPOSED REVISIONS IN ASPR 7–106

The machine-tool industry believes that whenever price escalation is appropriate, the semistandard supplies clause of ASPR 7–106.4 can be employed in the procurement of machine tools customarily sold on a list-price basis. This clause contains the substance of Able Modified of the Korean period, and the variations represent clarifications and the elimination of certain plain defects.

The industry feels, however, that the regulations relating to the use of the semistandard supplies clause need some modification. For one thing, they should be amended so as to prevent a repetition of the Air Force deviation already discussed. In addition, there are the questions raised by the relationship between the semistandard supplies clause and the standard supplies clause of ASPR 7–106.3; the 10 percent ceiling on escalation; and the provision which makes the propriety of escalation depend upon the delivery schedules set up in the contract.

These questions were first mentioned in a letter dated December 1, 1953, from the machine-tool industry to the ASPR Committee commenting on the clauses which afterward were promulgated in ASPR 7–106.3 and 7–106.4. On June 10, 1954, they were discussed at a meeting at which Mr. Warren Webster presided. On August 2, 1954, they were covered along with other subjects in a memorandum from the industry to the Defense Department. A year later, they were raised once more in a letter dated August 10, 1955, from Mr. Everett Hicks to Mr. Webster. Then on October 5, 1955, Mr. Webster wrote Mr. Hicks and supplied him with the comments of his staff.

In view of this history, we shall now discuss the proposed revisions of ASPR 7–106 in relation to the staff comments contained in Mr. Webster's letter of October 5, 1955.

TERMINATION (ABLE VERSUS ABLE MODIFIED)

The standard supplies escalation clause contained in section 7–106.3 of ASPR provides for a no-cost termination in the situation in which the contracting officer finds the escalated price unacceptable. But the semistandard supplies clause of ASPR 7–106.4 provides for termination for convenience under ASPR VIII in this situation. The clauses thus correspond in this regard to clauses Able and Able Modified of the Korean emergency, and the question which concerns the machine-tool industry is whether machine tools qualify as standard or semistandard supplies.

As we read the staff comment contained in Mr. Webster's letter of October 5, 1955, it does not precisely meet this question. The comment to which we refer is as follows:

"Mr. Hicks' last points turn on the desire of his industry for 'termination for convenience' treatment when escalated prices make procurement of the machines not desirable. We have philosophically taken the position that escalation arises at the fault of neither the contractor nor the Government as a contracting party. Therefore, if the item is a military item, we recognize the fact, and provide for 'convenience' termination. If the item is 'standard' or 'commercial,' we look to industry to market his standard item to another customer. We believe that this is theoretically sound."

This comment suggests that the question whether machine tools are standard or semistandard supplies must be decided on a case-by-case basis in the negotiation of individual machine-tool contracts. But, as demonstrated during Korea, few, if any, machine-tool builders will feel in any new emergency that they can accept the standard supplies clause, which as regards the termination provisions is merely old clause Able. The reasons for this position are basic in the characteristics of machine tools and the machine-tool market.

The principal reason why machine-tool builders feel that they cannot accept clause Able or the present standard supplies clause is that such clauses impose far too great a risk of nonmarketability on the contractor in the event of a termination. The staff comment assumes in this connection that standard supplies (and perhaps standard, general-purpose machine tools) can be easily disposed of in the event of termination. But this assumption is completely false as applied to the machine-tool industry. The machine-tool market is notorious for its peaks and valleys, and no one knows at the beginning of an emergency just when the production industries will be tooled and the machine-tool market will fall off. It follows that manufacturers of standard, general-purpose machines may very well find themselves in need of escalation in the middle of the inflation of an emergency, but at the same time they may be faced with a sag in the market for their machines. This is the situation in which a contracting officer is most likely to refuse to pay the escalated price and if he does, the contractor will be caught without a market. His problem of course will be greatly aggravated if the contract is larger than most commercial contracts. Cases can be readily recalled in which a machine-tool builder would suddenly find himself in the middle of an emergency with several months of production on his hands but with no market of any kind, commercial or defense.

A second reason for the machine-tool industry's position on clause Able and the standard supplies clause is to be found in the absence of any basis for a distinction between standard and semistandard machine tools. There are very few machine tools which are standard in the sense that one model will meet the requirements of a large segment of the metalworking industries. Almost all standard machines have special tooling or other special design features to meet the requirements of particular customers and, upon termination, the manufacturer of most standard machines will inevitably incur at a minimum the cost of retooling the machine for use by another customer.

Actually and quite apart from the characterisics of machine tools and the machine-tool market, clause Able would appear to involve a very basic unfairness by imposing the risk of nonmarketability on a contractor in situations where he is not at fault. This unfairness becomes especially plain when one considers the fact that under ASPR VIII, finished articles and inventories covered by a terminated contract must in any event be applied against existing orders. In other words, the Government is amply protected in the situation where there is a market upon termination and, when this is the case, there is not much difference between Able and Able Modified. But when there is no market, Able inflicts a substantial loss on the contractor though he is in no way at fault. This seems to the industry a penalty for the penalty's sake.

As has already been mentioned, the controversy over Able versus Able Modified was one of the most serious of the procurement controversies of the Korean emergency. It obviously should not be revived in any new emergency. It nevertheless is almost certain to reappear unless sections 7–106.3 and 7–106.4 of ASPR are revised to make it plain that all machine tools qualify as semistandard supplies.

The 10-percent ceiling

As promulgated on April 27, 1955, section 7–106.4 of the Armed Services Procurement Regulation contains a 10-percent price ceiling on escalation. The machine-tool industry maintains, however, that ceilings should be negotiated on a contract-by-contract basis and that in many cases a 10-percent ceiling will be too low. This point was made in Mr. Hicks' letter of August 10, 1955, and the staff comment in Mr. Webster's letter of October 5, 1955, is as follows:

"The 10-percent ceiling is written in light of the present economic situation. If the situation develops as expected by Mr. Hicks, we must and will adjust this ceiling in keeping with the revised situation."

The difficulty here is that we are not concerned with the "present economic situation." The problem is to provide a regulation that will work under emergency conditions similar to those which bottlenecked machine-tool procurement in the first days of World War II and the Korean emergency. The industry appreciates the good intentions of the staff, and it has no doubt that the ASPR committee would review the escalation ceiling in the event of a new emergency. Experience nevertheless shows that the ASPR procedures are time-consuming, and in the press of the hundreds of other priority projects that are likely to arise in the first months of any new emergency, it might very well take a very long time to revise any given section of ASPR. If this were to be the case, machine-tool procurement would be correspondingly delayed because, in the light

of the Korean experience, no machine-tool builder would be in a position to accept a 10-percent ceiling on escalation.

As the industry views the situation, the difficulty may arise in part from the continued practice of classifying machine tools as supplies along with a wide variety of supply items and even military end products to which they bear no resemblance. There may very well be some reason for the 10 percent ceiling in the current procurement of some supplies, but if such reasons exist, they can hardly justfy the risks the ceiling involves in terms of a potential machine-tool bottleneck.

It would appear that the best way to remedy the situation is to substitute contract-by-contract negotiation for the ceiling in ASPR 7–106.4, but if for some reasons with which the industry is not familiar this cannot be done in respect of all supplies, we suggest a clause providing for case-by-case negotiation in the event of some new emergency. Although the definition of emergency is always troublesome in this kind of mobilization planning, the industry is confident that some appropriate language can be developed.

Six months' delivery

Section 7–106.4 of ASPR limits the use of escalation to contracts calling for a 6-months delivery. But, as Mr. Hicks suggests in his letter of August 10, 1955, delivery schedules in machine-tool contracts are meaningless whenever there is a priorities system. This was demonstrated in the first days of Korea. Nevertheless, under section 7–106.4, a machine-tool builder might very well be refused escalation at the beginning of some new emergency on the grounds that delivery in 5 months was specified and then find himself badly in need of escalation when delivery was postponed for 2 years because of the operation of a priorities system.

As a matter of fact, the need for escalation is not confined to cases in which deliveries actually take place more than 6 months after the contract is executed. When price controls are in effect, escalation is often necessary before the expiration of 6 months and sometimes on the day after the contract is signed. This stems from the practice of granting periodic increases in price ceilings as an emergency progresses. During the Korean emergency, for example, the prices of machine tools were frozen at a very low level until August 27, 1951, when suddenly prices could be raised by at least 12 percent and by as much as 20 percent in some cases. This increase was long overdue, and it was needed as much on contracts dated the day before as on contracts 6 months old. It must be assumed, as it seems to us, that there will be price controls and periodic increases in price ceilings in any new emergency, and since the 6 months' provision of ASPR 7–106.4 would prevent price escalation to price ceilings in many situations, it is likely to breed unnecessary controversy with many contractors.

The staff comment on this situation is as follows:

"We believe that industry can and must undertake reasonable pricing risks. We believe that in terms of time a 6-month risk is reasonable. If this period is extended as outlined by Mr. Hicks, somebody is at fault. If the contractor is at fault, it is questionable policy that the Government ought to offer the suggested protection."

Of course the industry agrees with the staff that it must assume reasonable pricing risks. The machine-tool industry has always assumed this kind of risk and will continue to do so.

For the reasons already given, the industry cannot agree that "in terms of time, a 6 months' risk is reasonable." As has been pointed out, it is entirely possible when price controls are in effect to find a contractor entitled to escalation the day after the contract was signed. There is often, if not always, a lag between an increase in price ceilings and the appearance of cost additives upon which the increases are ultimately based, and an escalation clause which does not permit escalation to price ceilings is manifestly unfair.

The staff also suggests that "if the contractor is at fault, it is questionable policy that the Government ought to offer the suggested protection." But we are not talking about defaults on the part of the contractor. The Government is adequately protected under the defaults clause for delays in delivery, and in any event it would be perfectly proper to provide in ASPR 7–106.4 that a contractor cannot found a claim to escalation upon his own inexcusable delays. The delays we have in mind are the delays occasioned by the operation of priorities systems, and also the delays or the time lags that are often involved in establishing realistic price ceilings. In addition, there are manpower problems and a variety of procurement problems which are completely beyond the control

of the contractor but which often cause delays. The experience of Korea teaches that shifts in priorities and other factors may delay deliveries for many months, and the first point we wish to make is that when this happens, and when a 5-month delivery becomes 15 months, the contractor is entitled to as much escalation as he would have had if a 15-month delivery had originally been specified in the contract. The second point is that a contractor should always be permitted to escalate his price to the applicable price ceiling without regard to the time of delivery.

It would appear that a provision to cover this situation can easily be written into ASPR 7–106.4, and the industry would be glad to supply specific language if any useful purpose would be served.

A SPECIAL EMERGENCY ESCALATION CLAUSE FOR LONG-LEAD-TIME CAPITAL EQUIPMENT

In his letter of October 5, 1955, to Mr. Everett Hicks, Mr. Warren Webster expressed a willingness "to consider additional escalation clauses, even usable only for mobilization purposes, upon a demonstration of a need therefor." It may very well be that in lieu of the amendments to ASPR 7–106.4 that have been discussed, there should be a special emergency escalation clause for use in the procurement of long-lead-time capital equipment. The industry would be glad to propose precise language for such a clause.

CONCLUSION

As stated in Mr. Hicks' letter of August 10, 1955, the machine-tool industry is very much concerned lest ASPR 7–106 lead to a repetition of some of the procurement difficulties of 1951. It can easily be amended so as to remove the present built-in obstacles to efficient machine-tool procurement, and the machine-tool industry believes that this should be done while there is yet time.

×